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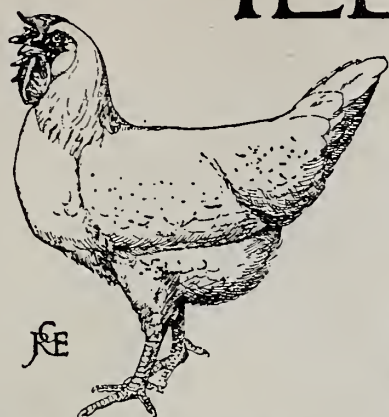


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A PAIR OF BLACK ORPINGTONS.

The above drawing, by J. R. G. Exley, of a pair of Black Orpingtons, is reproduced by the special request of several readers of the "Illustrated Poultry Record." It appeared in our issue of December, 1908, nearly three years ago, and at the time aroused a good deal of interest, being freely acknowledged by some of the leading breeders to be the finest drawing of Black Orpingtons they had ever seen.

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EDITORIAL NOTICES.

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The Editor will be glad to hear from readers on any Poultry Topics, and all Queries addressed to the paper will be answered by experts in the several departments. The desire is to help those who are in difficulty regarding the management of their poultry, and accordingly no charge for answering such queries is made.

The Annual Subscription to the ILLUSTRATED POULTRY RECORD at home and abroad is 8s., including postage, except to Canada, in which case it is 7s. Cheques and P.O.O.'s should be made payable to the ILLUSTRATED POULTRY RECORD.

The ILLUSTRATED POULTRY RECORD is published on the first of every month. Should readers experience any difficulty in securing their copies promptly they are requested to communicate immediately with the Editor. The latest date for receiving advertisements is the 20th of the month preceding date of issue.

The utmost care is exercised to exclude all advertisements of a doubtful character. If any reader has substantial grounds for complaint against an advertiser he is requested to communicate at once with the Editor.

The Fox Question.

Destruction has been the order of the day for some time; first, of farmers' poultry by Master Reynard, who, in spite of laws, has been protected by social influence, and has evidently regarded himself as a privileged predator, for whose piracies there was no punishment. Now the boot is on the other foot. Poultry-keepers are forming vigilance committees, or acting personally in defence of their flocks and pockets. "Home Counties" discusses the question this month with his usual acumen. Where Hunts are unwilling to act justly, the time of grace has expired, and they can only blame themselves for whatever may result. We cannot but feel, however, that the members of the Masters of Foxhounds' Association have not done all in their power. Had they expelled the Southdown or any other Hunt that refused to conform to the recommendations made by them, such action would have shown that the Association was in earnest. Now we have to face the constructive side. A writer in one of the dailies dealing with Foxes and Pheasants, gives expression to what is a very general feeling, namely, that "the whole secret is one of keeping," to which may be added the feeding of preserved foxes. Laziness accounts for much of the trouble, though not for all. At the same time, the responsibility rests upon the Hunts who are answerable for what their servants omit to do, as well as definite action. Poultry-keepers have a perfect right to demand freedom to keep their fowls as they like on their own occupations, and full compensation for loss arising from the depredations of animals kept for some one else's pleasure.

Egg-Production.

Two years ago we gave in the POULTRY RECORD (Vol. I., p. 731) some extracts from a report

published by the U.S. Department of Agriculture, written by Drs. Raymond Pearl and Frank M. Surface, summarising the results of eight years' breeding at Orono, Maine, with the object of increasing the egg-production of large flocks of Plymouth Rocks. It was shown that a rigid selection by trap-nesting, using only the best layers as breeders, and cocks from high-record mothers, had not only failed to raise the average yield of eggs, but that there had been a slight reduction. That study related to the annual records. We have now a continuation which deals with the seasonal results. Some of the facts brought out by this report are treated upon by "Statistician" in the present issue, as the lessons are of vast importance as a guide to breeding for increased laying. It is pointed out that the seasonal production is an essential factor, for we have not alone to consider the total number of eggs in twelve months, but when laid—as values vary so considerably—and also that an extreme layer may be less profitable than one which does not yield the same total, but produces during the seasons of higher prices. The main point proved by this valuable study is that selection had not exerted any marked influence upon the average or mean laying in any month of the years under review, and that the mean production decreased during ten out of the twelve months. Also, that the variability among the hens tested, by which is meant the differences in laying of the individuals, was greater in eleven out of twelve months in the later years than in the earlier. This report is one to make poultry-keepers "furiously to think," and it involves the whole problem of ordinary selection and laying competitions.

A Check to Trusts.

The pressure as a result of advancing prices of food is very great, and is stirring householders in various ways. In the United Kingdom a remedy is sought by strikes, in Germany demonstrations and petitions are used to influence the State authorities, in France looting the shops is popular, and in America traders are being sent to gaol. A poultry trust was formed in New York a couple of years ago, the result of which is an enormous increase of prices charged to consumers. It is stated that a chicken worth 3s. 6d. in London cannot be purchased in New York under 7s. After a trial lasting fifty-one days thirteen partisans of the poultry trust have been sentenced to a fine each of £100, and to imprisonment for three months. How long of that they will serve we must wait to see, for appeals often reverse judgments, but the judge trying the case would not grant bail, and the first night at least was spent in prison. In the trial it was shown that the poultry dealers, shippers, receivers,

jobbers and owners of slaughter-houses in New York had entered into an arrangement to pool their receipts, and thus prevent all competition. That the law declares to be a crime. Were it used to economise expenses and simplify methods so that the public could be better served it would be to the good, but the object of such combinations is to force downwards the returns of producers and upwards the prices paid by consumers, so that it is serving the interests of the few at the expense of everyone else. The time is fast coming when such combinations and other violations of laws formed for the good of the community must be sternly dealt with. Fines are useless. Imprisonment is the only remedy.

Poultry Teachers and Investigators.

The annual meeting of the American Association of Instructors and Investigators in Poultry Husbandry, at Orono, Maine, held in August, appears, from the information to hand, to have been a great success, although the presence of European representatives had not been secured as was hoped. Several papers, however, were submitted from this side, which were much appreciated. One of the most important questions which received consideration was the suggestion to form an international association of poultry workers, embracing all countries in which poultry-keeping is finding encouragement. This is a bold project, but one which should be capable of realisation, in that by bringing together those who are engaged in teaching and research, the knowledge and experience gained by each could be made available to all. By so doing the progress of the poultry industry would receive a great impetus. The amount of material now available is already very great, and is rapidly increasing, but, unfortunately, many of those to whom it would be of the greatest service know little or nothing of it. Further, if from time to time for interchange of ideas, and to discuss the many those engaged in this work could meet together problems presenting themselves, great would be the gain. We hope that the proposed international association may go forward. That there are many difficulties to be overcome is unquestionable, but that these are greater than the determination and ability of poultry workers we do not think anyone will admit.

A.P.A. at Denver, Colorado.

The reports to hand, up to the time of writing, indicate that the annual meeting of the American Poultry Association, at Denver, Colorado, was a great success, equally in the attendance, interest manifested, and the enjoyable incidents of the gathering. Welcomed by the State Governor and the Mayor of Denver, recognition was given of how important a place poultry-keeping may yet

attain in the rural economy of this western state. The various resolutions passed, and decisions arrived at, call for no comment, as they concern American breeders alone, but mention may be made that it was decided to issue a standard for judging dressed poultry and eggs, and that a revised standard of breeds with corrected illustrations should be brought out as speedily as possible. Two points impress themselves by the records of the meeting. First, the enthusiasm of American poultrymen and their determination to make their industry truly national all over the country, and, second, the great extent of country. Denver is somewhere about 2,000 miles from the eastern states, yet the latter were fairly well represented. The time and expense in reaching the place of assembly must have been considerable, yet nearly 200 were in attendance. It suggests why, with our small distances, there is not a similar meeting annually in the United Kingdom? Were such an attempt made it would have to assume a different basis, as no one of our leading poultry societies hold the unique position of the A.P.A., which is supposed to attempt at least to do what here is committed to different bodies. That difficulty, however, could be overcome.

Instructors Wanted.

The proposals now under consideration by various public authorities and bodies cannot find their full realisation until there is an adequate supply of those who are qualified to instruct and train. That has always been a difficulty since technical instruction was introduced. It is always thus in the early days of developing an industry such as poultry-keeping. Happily there have been those available who were able by practical experience to give themselves to this duty, and they have rendered yeoman service. Without these pioneers the results already attained could not have been achieved. The number, however, has not been great, partly due to the action of County Councils and other public bodies going for cheapness, and, in many cases, paying fees and salaries far below a living wage. Consequently, teaching and trading have been too often combined in one person, to the weakening of their work. Probably this policy was due to the contempt for poultry-keeping frequently manifested. All that has to be changed. To compel the payment of fair and adequate salaries to poultry instructors, these must have qualifications which command recognition.

Essential Factors.

Practical knowledge and experience in the manual processes are essential factors, and must be the foundation of all instruction, whatever its form. These can only be the result of years of work. The next quality to be looked

for is a wider grasp of the industry than is possible in any one locality, with an understanding of the principles and science underlying the various operations. To lead farmers and others instructors must know more than these do. And, finally, there must be the ability to teach, which is by no means so common as is often supposed. Many have failed, not so much by want of knowledge, as of power to impart what they understood. All this means a thorough training. It is certain that in the near future a much higher standard of efficiency will be required than has been the case hitherto. But for those who are prepared to qualify themselves by study of the theory and science, and practice in the manual processes, we are firmly convinced that there will be a goodly number of opportunities in the direction indicated for instructors in poultry-keeping.

Use of Older Hens.

The point raised by Miss Galbraith in her article appearing last month, as to the keeping of hens beyond their second year as breeders, is of considerable importance, and deserves a further reference. It has been customary, as our correspondent says, to recommend that, as a question of profitable egg-production, the necessary plan of getting rid of hens when two and a quarter to two and a half years old should be followed, as experience has shown that so far as the heavier layers are concerned the number of eggs laid in the third and succeeding years rapidly diminishes, falling below the point when the margin between food cost and egg returns is sufficient to leave an adequate profit. Some American and Belgian poultry-keepers have gone a step further, only keeping the pullets for one year. This, as Miss Galbraith recognises, does not apply to the use of these hens as breeding stock, and her practice of keeping those which have proved to be the best birds as long as they remained serviceable in that direction, even up to six years old, is one to be commended. We know comparatively little as to the forces which are at work in relation to reproduction, but it is evident that we need to conserve those influences which make for increased productiveness. One of the surest methods is using proved stock as long as possible. It is also pointed out that these older hens, as a result of their later period of moulting, hitherto regarded as a drawback, are productive at a time when pullets cannot be depended upon. The drop in supplies of eggs from July onwards is often serious, and if in this way production can be equalised it will be a great gain.

THE DAIRY SHOW.—*Our Stand at the forthcoming Dairy Show is in the Gallery, immediately above the Clock, where we shall be pleased to see our friends.*

OUR ACCOUNT WITH THE FOX AND SOME PRELIMINARY WORK WITH A SHOT GUN.

By "HOME COUNTIES."

Author of "Poultry Farming: Some Facts and Some Conclusions," "The Townsman's Farm,"
"A Study in Rural Therapeutics," &c.

"I am confident that the way the matter has been brought before the various Hunts, and the publicity which has been given to the question, will have the effect of securing better and fairer compensation."—*Chairman of Committee of Masters of Foxhounds' Association, June 24, 1911.*



HIGH authority in the poultry world has been good enough to write that the three articles on "Fox Hunting and Poultry Keeping: an Enquiry into the Facts" which appeared in the *Illustrated Poultry Record* of December, 1908, and January and February, 1909, form "the most judicial" contribution to the discussion

National Poultry Organisation Society have issued reports of the results of their conferences with the Masters of Foxhounds' Association. From May the history of the matter has been as follows:

1. The Masters of Foxhounds' Association agrees "that fair compensation should be promptly paid for all loss of poultry by foxes, but



A DESERTED RUN ON MISS GALBRAITH'S FARM, CLEARED BY FOXES, IN SPITE OF THE FACT
THAT THE RUN IS WIRED ALL ROUND. [Copyright.]

of an exceedingly difficult subject. It is my desire to continue to be judicial in anything I may say as to a matter which has certainly two sides, if not more. I wish to confine myself this month chiefly to setting forth bare facts.

From time to time the Joint Committee of the Utility Poultry Club, the Poultry Club and the

that the same can only be dealt with by each individual Hunt."

2. The Southdown Hunt announces its refusal to compensate on the ground that it "cannot entertain claims for the loss of poultry except in the case of farmers over whose land the hounds hunt, and from men in their employment."

3. The Masters of Foxhounds' Association, appealed to by the Poultry Committee, eventually writes: "The question of paying or not paying compensation, and the consequences involved, was discussed in every respect—the present one included—at our conferences, and the Committee were unanimous in explaining their inability at any time and in any way of compelling or persuading any Hunt to deal with the question otherwise than as they chose."

4. After further unavailing communication with the Southdown Hunt, the Poultry Committee believing "that great hardship is likely to be caused to smallholders and small poultry-keepers in hunting districts, and that the existence of such an unfair method must militate against their efforts to secure compensation and to remove the ill-feeling which exists in some districts between poultry-keepers and the Hunts," resolves, "that the poultry-keepers and smallholders living in the district hunted by the Southdown, should be advised 'to take whatever steps seem desirable and necessary to protect their own interests.'"

* * * *

"November 1: Fox hunting begins," says the calendar.

But for the members of the Southdown Hunt there has been this year an equally important entry:

"Summer, 1911: Fox shooting begins."

"There are the remains of a couple of birds baiting a fox-trap on my place. Their death showed that the foxes will come right close up to a dwelling house. The birds were killed in a chicken paddock a few feet from the windows."

"I wish I had a photograph of me sitting up all night with my gun to illustrate how the small farmer may be handicapped by having to work all day, and then having to spend his time of sleep trying to protect his birds."

"My health has been ruined through two seasons of sleeplessness. Even when the birds are securely shut up, I start up in a hot and cold shake all over at all hours of the night, thinking I hear fox raids. If the trap has to be set it is good-bye to sleep altogether. Several times a night I bound up convinced that I heard some poor beast screech. Now I am broken down in health altogether, and have to give up everything and take a complete rest. I meditate a tour through Sussex to 'superintend' the fox hunting."

"As my birds are not in pens the raids don't make much show as a photograph. Dead birds are acres apart from each other. The empty houses are the most expressive part."

"The fox, like the charwoman, has obliged for the day. At dawn I heard a noise; but, being ill, thought that for once I would not rise as it was sure to be a false alarm, but now one dead bird and a heap of feathers are all that is left of a pen in the gooseberry run. A few feet from my window, mind you, and wired all round."

"O, the blazing heat on Bisley Common as we searched for that fox earth! There are two near each other. To-morrow morning we shall have the family dug out. The lady of the house was at home, and had had another hen and a tail this morning."

"Every fox in the neighbourhood is lying out owing to the heat, but we shall get them. The terrier put up one big one. We have found the earth to which most of my poultry has been taken lately."

"At four yesterday I heard pandemonium among the poultry, jumped up and went out with my gun, but Reynard heard me come, and I just saw him disappear in the distance."

"My men found three new earths yesterday. Cubs, I suppose."

"What we want is to impress the public, especially hunting people, of the real hardship and losses. Then their own good feeling will show them the justice of our efforts to get fair play. Last year I was thirty eggs a day short for twenty days after a fox raid when eggs were selling at

All the experience of the world goes to prove that half-hearted fighting is a mere waste of strength and resources, and an aggravation of the quarrel. If there is to be war it must be real remorseless war. That was Moltke's plan; that is undoubtedly our Admiralty's plan. All the greater then is the responsibility of those who provoke war. "But bein' in it, the best thing is to fight it thru."

Luckily for the poultry-keepers of the Southdown area they had in Miss Galbraith, of Bagshot, a Deborah and Jael in one. Miss Galbraith shoots from the left shoulder, as many a famous shot has shot before her; but she shoots well, and traps well. Others of her fellow poultry-keepers have shot and trapped, too, and the total of dead now stands at the highly respectable figure of—but the Southdown Hunt need not be enlightened on that point just yet. Miss Galbraith is herself in the Garth Country, but the spirited Honorary Secretary of the Poultry-Keepers' Protection Society is able to direct the anti-Southdown Campaign quite easily from Bagshot.

Let me set out quite simply, and without exaggeration, the realities of this Fox Pest and Hunt Tyranny against which the gallant Miss Galbraith has raised her hand. I shall do this by means of extracts taken here and there from letters I have had from that plucky lady:

1s. 3d. to 1s. 6d. per dozen. Not a penny of the loss does any Hunt ever take into consideration."

"Your letter reaches me just as two men bring me in the fox they have been trying to catch all these weeks. As if that were not enough, another fox came this morning and took a bird. My birds have been disappearing steadily for some time now, but only one or two a day, so that very few traces are left."

"My own health has broken so seriously that I am doing little, but reserving my strength for the winter. Winter is the time for two reasons—first, the skins are in better condition, and we are able to sell a few; second, it is easier to get men to dig the animals out. There are not many men who will, even for a reward."

"Individuals are clearing all foxes from different parts of the country, and when the poultry-farmer takes to it seriously the Hunts either pay him to stop or move their foxes to save them. In the Southdowns it has got desperately bad, and one man is described as spending all his time burying the foxes he has shot. We have some valuable allies, and will make things uncomfortable this winter. Foxes are so thick, the Hunt can have no idea how many are being killed."

"I can't understand why the Board of Agriculture does nothing for us, and surely the Masters of Foxhounds' Association ought to take some notice of the fact that I told them that a Surrey Hunt was advertising for foxes in Scotland. In one particular spot thirteen foxes have been killed, and there are still five or six left."

Really, it does not seem necessary to add much to these transcripts from the life of a poultry-keeper in a fox-ridden neighbourhood.

The question before us for the moment is not as in 1908-9, the whole question of poultry-keeping and fox-hunting; but the situation in the territory of the Southdown Hunt. It is to be hoped that if the Hunt does not reconsider itself and do the fair thing by the people whose pockets it picks, the destruction of its foxes may go on till they are as rare as badgers and bustards.

It will be interesting to see from the local paper what kind of sport the Southdown Hunt enjoys this year.

I should like to hear what the local members of Parliament are about.

I hope that every poultry-keeper who can spare a guinea, or half-a-guinea, or five shillings, or a shilling for postage stamps, will send a postal order to Miss Galbraith, The Folly, Bagshot.

If the Hunt is badly beaten, all the other Hunts which are failing to deal honestly with poultry-keepers are beaten too, without a shot being fired in their districts.

I could have wished to have seen more notice taken in the Press of the Poultry Committee's ultimatum to the Southdown and of Miss Galbraith's campaign; but, if I may speak plainly as a journalist, the Press is not going to be wakened up by circular letters. Journalists are far too busy, and there are far too many interesting things to fill the papers. If the Committee does not know what diplomatists and politicians know, how to get "a good press," it would surely do well to concentrate on getting some money together for the anti-Southdown subscription list. Letters to the right newspapers have their value, but a Record Collection of Brushes will interest the Masters of Foxhounds' Association as nothing else will.

THE TUBERCULOSIS COMMISSION.

By HAROLD LEENEY, M.R.C.V.S.

THE profound respect with which we must regard such eminent experts as those chosen to investigate the subject of tuberculosis is a barrier to criticism by the average practitioner, whose knowledge of the subject is chiefly derived from them and others with exceptional opportunities of obtaining information by laboratory experiments and collation with scientists in other countries. But those who have closely followed the history of the subject of tuberculosis since Dr. Köch first made known

his discovery of a bacillus as the specific cause of the disease will remember wide divergences between the views of the most eminent, and it may therefore be permitted us to ask if the Commissioners went into this inquiry with minds entirely unbiassed or uninfluenced by preconceptions; whether they had not already committed themselves to the views loudly proclaimed by their disciples, that the cow was the chief means of infection, and that, after milk, the meat of quadrupeds and fowls was responsible.

Be this as it may, the Commission has made thorough use of its large powers, which we can only regret did not include the inoculation of a condemned man or two, who might have been given a sporting chance of liberty, and if he had never been of any use to the community before, might have redeemed a misspent life as a post-mortem subject of examination after inoculation with bovine and avian tubercle bacilli. The Editor will not, of course, be held responsible for such an awful suggestion, but the writer is looking at the subject from a purely scientific point of view, and dares to question the findings of a Commission which has not inverted its experiments upon man, after infecting animals—some of them with great difficulty—with enormous quantities of bacilli introduced in a manner impossible in the ordinary or “natural” way. We gather from a careful perusal of the Final Report (page 35) that “the human tubercle bacillus readily produces a fatal tuberculosis in guinea-pigs, chimpanzees, and monkeys, but *causes, even when administered in large doses, only slight and non-progressive lesions in cattle, goats, and pigs.*” A little lower down on the same page the Report says “man must therefore be added to the list of animals notably susceptible to bovine tubercle bacilli.” It is difficult for the plain man to accept the conclusion, though he may have read the intervening paragraphs. If cattle are so resistant to the human bacillus, by parity of reasoning men should be as resistant to the tubercle of cattle! If “large doses,” such as could never be taken by cattle naturally, produce only “slight and non-progressive lesions,” we may be allowed to suppose that an occasional bovine bacillus taken into the system of a human being would fail to infect or have but a thousand-to-one chance even if the seed fell upon good soil (from the disease organism’s point of view) and not upon the stony ground which is represented by the bodies of average persons with an ordinary degree of resistance: something short of belonging to the class known as immunes where other infectious maladies are concerned. This, of course, brings us to the disputed question of heredity, which we have no space to deal with here, and as a fact it matters little whether we are born with the seeds of consumption, which will germinate about the age of puberty, or have such susceptible constitutions that the first bacillus that comes our way will lead to our undoing. We see the children of consumptive parents fade away and die in early manhood and womanhood, and when we have watched a couple of generations do so, we acquiesce with a rather stiff bow to those who should know best, and who assure us that the evil is not transmitted but wholly due to infection.

While the greatest importance attaches to the possibility of man being infected by animals, there are other aspects of the question—economic ones—which concern the stock-breeder and poultryman which we should have gladly seen dealt with, but were not included in the terms of reference. We may take hope from the statement that “in natural cases of tuberculosis in cattle the only type of bacillus present is the bovine type. *Similarly in cases of natural tuberculosis in poultry the bacillus belongs to the avian type.*” The latter statement goes far to contradict the oft-repeated notion that a consumptive person about a poultry-yard infects birds by his sputa, and these in turn infect other human subjects. The argument already advanced in this article as to transmissibility from cattle to man is greatly enforced by a paragraph in the Report (page 5) which shows that fowls may be *poisoned* by an enormous dose of bovine tubercle bacilli introduced into a vein or into muscle or into the abdominal cavity (intraperitoneally) *without causing the disease.* Again, the Report states (page 7) that “the avian tubercle bacillus forms a slimy whitish growth, which is easily emulsified, thus contrasting with the growth of bovine and human bacilli.”

There are many things in this report I should have liked to have dealt with, but the space allotted is strictly limited, and I will conclude by one more reference to cattle, and then quote the paragraph in connection with poultry which I conceive to be of the utmost importance to those connected with the industry. There is a disease affecting the intestine of cattle called by the name of the discoverer (Johne), which in its symptoms resembles tuberculosis, but is proved by post-mortem lesions not to be. The living subject of Johne’s disease has been found to react to a tuberculin prepared from avian tubercle bacilli. Is avian tuberculosis another disease, or why should it be a test of Johne’s disease?

The following paragraph appears on page 7, and should be convincing to the poultry-keeper as to the chief and perhaps only method by which infection occurs in the farmyard—namely, by ingestion or soiling of the food with the bacilli of diseased birds, the remedy being largely in the hands of the careful man. “Fowls are very susceptible to the action of the avian tubercle bacillus by intravenous, subcutaneous, and intramuscular inoculation *and by feeding.* After inoculation there are tuberculous lesions in the spleen and liver, and frequently in the lungs, cervical glands, and muscles and bones. *After feeding* the distribution of the lesions is the same, with the exception that characteristic tuberculous lesions are produced in the mucous membranes of the intestines.”

TWO DAIRY SHOWS—A CONTRAST.

By WILLIAM W. BROOMHEAD.

"THIS event opens the winter show season, and is the first real test of the year's work in the breeding-yards." Those words were written by my father more than twenty-five years ago—to be precise, in 1885—in his introductory remarks to a report of the Dairy Show which appeared in *Poultry*. And, although times have changed since then, and the Fancy has advanced, they are as true to-day as when they were penned. Yes, times have changed, and those of us who have spent many years in close touch with our great Fancy can recollect when things were otherwise. Breeds which years since were well to the fore are now practically unknown, and are seldom catered for, while others which had not been "manufactured" in the middle 'eighties are to-day providing the keenest competition and the best filled classes. And the same may be said of the exhibitions. Some which were then in their heyday have passed into oblivion, and yet others, undreamt of at that time, have since come into being, and figure among the classical events of the season. Where are now the Spanish and the Polish breeds, aye, and the Booted Bantams which were so fashionable in Fancy circles in 1885? An odd entry or so in the "Any Other Variety" classes at two or three exhibitions nowadays is all that is seen of them. And yet the great Orpington family, not catered for at that show, and never a specimen on view either, how it is "boomed" of late years, and how splendidly its classes fill, the most popular breed of 1911 without doubt. We talk now of Hayward's Heath Show being "the preliminary canter" for the Dairy, as, indeed, it is; but what of the "Heath"—as it is popularly termed—twenty-five years since? It was non-existent, and only of quite recent times has it been considered as an exhibition of any importance.

But it is of the Dairy Shows I write. We are on the eve of the thirty-sixth annual exhibition of the British Dairy Farmers' Association, with its 470 classes for poultry and pigeons, for which there are 200 champion prizes and specials, and prize-money to the amount of

£1,500. Truly an enormous affair this. It will be interesting to younger fanciers, who maybe are coming up to the Agricultural Hall for the first time, to compare this month's show with that of the Association in its tenth year, so I give a few excerpts from notes written of the early exhibition. It is worthy of note, as regards the management, that Mr. Edward Brown, F.L.S., was steward of the poultry section, but since at that time there was no fanciers' committee, such as now exists, to assist in carrying out the work of the show, and only seven judges were engaged—and among them the veteran Mr. W. B. Tegetmeier, Captain Heaton, and Mr. L. C. R. Norris-Elye, who are still with us—all the prize-cards were not posted on the pens by the time the section was opened to the public.

There was a total entry of 1,489 poultry in the 114 classes, and six sets of appliances. Dorkings opened the list with 110, exclusive of selling classes, there being 48 Darks (known as Coloured), 41 Silver Greys, and 21 Whites, the Lord Mayor's champion cup going to Mr. Cranston's Coloured cockerel. Cochins had 78 entries in six classes, and the Buffs were as usual the best and most numerous. Brahmas made a fair figure at 48 in their four classes, but the judge's awards were in several cases pretty freely canvassed, and the opinion was that in Lights he gave too much attention to colour, and was thus in one or two instances led to give a preference to birds which were not as good in general Brahma character as they might have been. The Langshans were the best classes in numbers since 1878, when very valuable prizes were offered by the old Langshan Club. The total was 56 in two classes, and it is quite evident that fanciers then had broken away from the supposed original (or Croad) type, since the Langshans at the 1885 event were referred to as "like some of the other modern breeds." The Spanish caused something of a sensation, since the judge (Mr. James Long) disqualified the whole of the cockerels and several of the pullets as being trimmed. "The

prizes were offered for untrimmed birds, and it seems as if the fates conspired to thwart the efforts of those who are anxious to suppress plucking of any feathers from the faces of Spanish. . . . Our impression is that the judge was too severe. . . . We have frequently spoken of the difficulty of being certain as to this matter. The birds vary so very much in the amount of feather, and even in the position of the feather, that grows on their faces." What would be said now if a judge disqualified a whole class for some such uncertainty? Surely would those interested in the breed state their views as to the matter, and in no light way! What an excuse for a lengthy controversy in the "off" season!

There were forty-seven Minorcas in two classes, and of rare quality, too. The classification for Polish—three classes for Spangled cockerel, ditto pullet, and any other colour cockerel and pullet—was not such as to be likely to produce a good entry, and only twenty-two birds, including three pairs of White Crests and White-Crested Whites, were on view. There was an alteration in the classification of the French varieties, Houdans getting the usual two, but Crève Cœurs and La Flèche competing together, and—this worth a special note for those who speak of new varieties—two other classes provided for La Bresse and any other variety. No La Bresse, however, turned up, and the only two entries were Campines of very moderate quality, to which a second and a third prize were awarded. Hamburgs had an average of almost thirteen in their six classes, and the varieties catered for were the same as now—viz., Gold or Silver Spangled, Gold or Silver Pencilled, and Black. Of Game there were eighty-five in eight classes, but although there were some really good birds shown, the general quality was not high, many of the chickens being rather too backward to judge of their merits. Malays, twenty-six in the two classes, did not merit very special comment, and the same appears to have been the case with the Andalusian cockerels (fifteen), although the pullets (seventeen) were described as a good lot.

The Leghorns had four classes for Browns and Whites, and with fifty-six entries made a good display. The two classes for Plymouth Rocks produced the excellent entry of eighty-one, of which forty-two were pullets. The Wyandotte was then considered as a new breed, but the collection of forty-four in the two classes was described as "a wonderful muster." In the Variety class there were pens (cockerel and pullet) of Mottled Aseel, Scotch Greys, Phoenix,

and "a Mottled Belgian breed, with whiskers and double combs, called Uilebard in the catalogue." Only a dozen selling classes were provided, but I can find no trace of record prices being realised. Game Bantams and Bantams not Game made a nice show, there being 127 of the former in their eight classes and eighty-two Variety Bantams in twelve. Ducks had an average of twenty a class, the birds being shown in pairs, the Aylesbury, Rouen, and Pekin getting separate classification, with a class for any other variety—this last a pretty class, but no novelties. There was a grand collection of geese, fifty-three all told, while of young turkeys the entry was twenty in two classes. There is no space here to give the names of the chief prize-winners, but I note with pleasure that many of those fanciers who figured well are still "setting the pace" in the show-pen.

So much, then, for the Dairy of 1885. Whatever may be said of the other big chicken shows of the present season, there is no question about the importance of the Islington fixture, which opens next Tuesday, and continues until Friday night. Among exhibitors of any standing it is considered as the event at which the very pick of the year's birds will be staged for competition, hence to gain a first prize at the Agricultural Show this week with a chicken of one's own breeding is to secure one of the most coveted honours in "Fancydom," and to greatly enhance one's prestige as a fancier. To be "in the money" at the earliest shows of the year chickens have to be hatched out of season, but fowls hatched in March have been known to carry off premier awards at the Dairy. It is just that, the result of what may be termed natural growth, a good figure without any forcing, that makes the Islington exhibition what it is—the first real test of the year's work.

Of the social side of the show much could be written. Here one meets friends from all parts of the country, and in the afternoon of the first day, when the anxious exhibitor has assured himself of the results of his birds, it is one long round of greeting and "comparing of notes." There are Specialist Club meetings to be attended—far too many of them, as a matter of fact—and what with the din of the cocks and the cows, it is surprising that any real business is accomplished at these annual gatherings. The reports of the secretaries, however, which filter through to the Fancy Press within the following few weeks are proof, I suppose, that something has been done; but some of us who put in an appearance have to "take them as read." Nevertheless, the Dairy is a show I would not miss for many things.

POULTRY THROUGH THE MICROSCOPE.

No. XI.—DISCLOSURES OF FOWL'S BLOOD.

WRITTEN AND ILLUSTRATED BY JAMES SCOTT.



OWL'S blood, like that belonging to many other creatures, congeals or coagulates so rapidly after withdrawal that many of its peculiarities are hidden from observation. Moreover, as it needs the aid of the compound microscope when investigations are about to be made into its composition, we have a very wide range of secrets left for disclosure.

The first fact that strikes the thoughtful person is that whereas the blood solidifies into a stiff immobile jelly out of the body, that same substance is very fluid and travels along in a quickly moving stream when in the living creature. The reason for its rapid coagulation is that a ferment called fibrinogen acts upon it as soon as it is exposed to the air. It is presumed that in live blood the ferment is absent, but that as soon as the blood is withdrawn this

When a glass jar is held beneath a decapitated fowl to catch the falling blood, the latter will congeal within a few minutes into a flabby lump of matter resembling softened liver. If we allow no

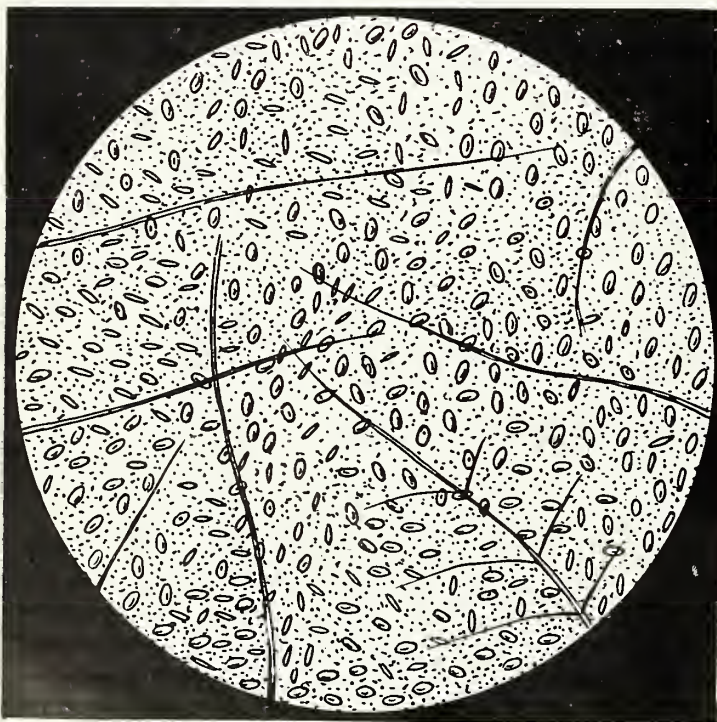


Fig. 1.—A MAGNIFIED PINHOLE,
Showing the appearance of newly-drawn fowl's blood. The lines represent strands of down from a chicken.

strange factor is introduced, and by increasing in quantity causes the blood to become clotted.

A ferment is the chemical action of living germs, or the product of similar things capable of actively stimulating various substances.

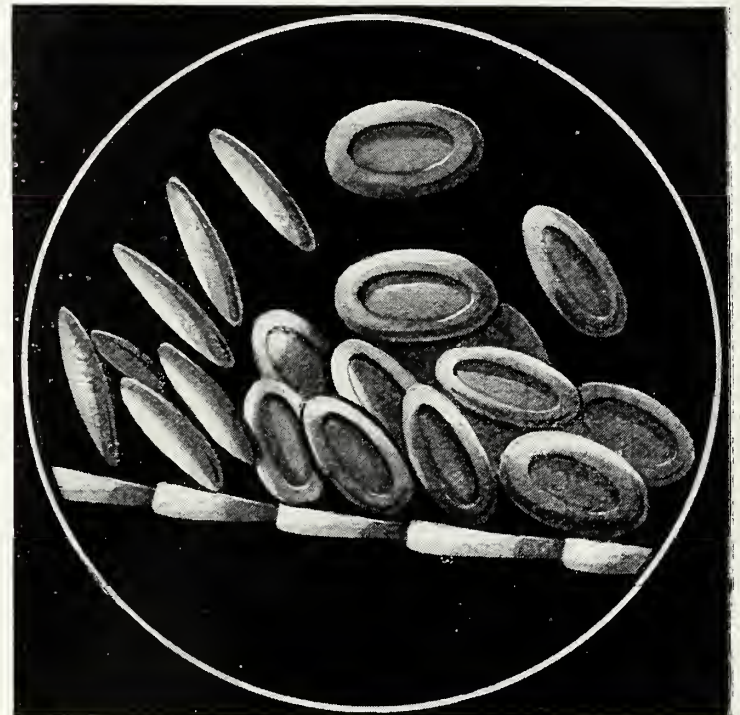


Fig. 2.—A GROUP OF THE CORPUSCLES.
Shown in Fig. 1, are here depicted on a much larger scale, along with a fibre of down from a chicken for comparison.

delay to intervene between the time when we remove the blood from the fowl and its final examination beneath the microscope there will be provided for inspection myriads of extremely minute objects known as corpuscles, which crowd the fluid in dense masses of millions upon millions to the cubic inch. The blood is, indeed, a semi-fluid known as *plasma*, or *liquor sanguina*, and these blood corpuscles consist of two kinds, red and white, of different sizes. The red ones are the carriers of oxygen (gas) and the white ones consist of protoplasmic substance, having the faculty of destroying, and feeding upon, all varieties of *bacteria* and *bacilli* (microbes) by the simple process of absorption.

An idea of the extreme minuteness of the corpuscles can be obtained by bearing in mind that the disc in Fig. 1. depicts a pinhole of about 1-24 inch diameter, magnified to the proportions there observable. In such a hugely enlarged

space—an intensely tiny area, in reality—myriads of corpuscles exist. I show a mere few of them scattered apart. In a blood clot they amalgamate homogeneously into a solid, or rather semi-solid, lump.

Supposing we were examining a drop of the actual blood, we should find this pinhole crammed full of these corpuscles, arranged side by side, and above and below one another, the whole number comprising practically uncountable millions. They lie between one another like piles of plates. The blood-tester, however, can count them to a certain extent, because he employs a slide that has been ruled into regular spaces of definite sizes. By counting the specimens which lie upon any particular space, and multiplying the array of spaces, a rough calculation of the total quantity may be arrived at. But this result represents only those which are deposited in a superficial layer, and not the enormous number that normally occur above and beneath them.

Some of these corpuscles, on a larger scale, can be seen in Fig. II., appropriately compared with the fine fibres of down from a chicken.

As may be gathered from Fig. II., the corpuscles, the characteristic colour of which is red, are oval and somewhat flat or dish-like. Viewed edgewise they often appear the shape of boats, or else have fairly well-rounded ends or circumferences. These objects are, however, so sensitive to exterior influences that if they are spread out in a drop of water they yield up their bright red tint, which becomes so completely dissipated that no trace of it whatever can be found.

The fowl's corpuscles are, strangely enough, about twice as large as those found in the blood of mankind. By their means biologists have been largely assisted in determining the fact that poultry, as well as all other birds, are the direct descendants of reptiles. Their scaly legs are the only visible signs of such modification. They can be definitely traced from the extinct flying lizard, *Archeopteryx*, whose fossilised bones adorn a few notable museums. Only the lower orders of the vertebrates—meaning those creatures possessing a backbone—have corpuscles of an oval shape. It takes only a few minutes for the whole of the blood to circulate entirely throughout the body.

The redness of blood is due to the presence of iron in the corpuscles, the colouring matter being known as hæmoglobin, and this has an affinity, under the circumstances, for oxygen, which it obtains from the lungs or aerators. As the blood is forced from the heart through the lungs it enters minute vessels or tubes hardly wider than spider's threads, which surround the small openings or pores of the lungs. The

lining membranes of these pores are so excessively thin that their oxygen, derived from the air, passes through these membranes and into the slender vessels beneath them, and after permeating the corpuscles is carried forward by these agents into the larger blood-vessels, and thereby nourish the whole of the body.

After careering through the mass of the tissues the blood returns to the heart, the corpuscles being then heavily laden with carbonic acid (gas) derived from the portions wasted or worn out by the process known as *metabolism*, or cell disintegration and rejuvenation.

The arteries contain the bright red, newly-oxygenated blood. This is called, scientifically, *oxyhæmoglobin*. The veins, on the other hand, hold the blood after it is almost wholly occupied by carbonic acid, when it is called *deoxygenated hæmoglobin*.

Both red and white corpuscles are, by the way, nucleated. In other words, they contain middle spots of substance of complex structure. The corpuscles of mankind and the higher animals are non-nucleated. Staining is necessary to render these *nuclei* very clear.

Birds and mammals—that is, those creatures which suckle their young—hence the word *mamma* for mother—are practically the only



Fig. 3 —A MAGNIFIED PINHOLE.

Some of the fluid portion of fowl's blood is here shown dried, when it produces curious little crystals.

hot-blooded creatures at present existing. The temperature of the blood of poultry, etc., is from two to fourteen degrees higher than that of mankind, ranging from 100deg. to 112deg.

Fahrenheit. This unique heat may be accounted for by the covering of feathers and their entangled air serving as a protection against radiation from inside the body.

The best authorities prefer to use the term *plasma* to describe the fluid while it exists in the living body; and the definition serum for a similar fluid after its extraction. Artificial (*i.e.*, chemical) serum, or semi-natural serum (*i.e.*, removed from other animals), are frequently used for the purposes of inoculation into various creatures for the prevention or cure of specific diseases. The word *serum* is, however, very loosely applied, and may mean any

blood fluid, whether in a running or a stiffening state.

Living blood contains salts of various kinds dissolved in it, obtained from food, medicines, and so on. These may crystallise in definite ways when the blood is watered and dried, or only normally clotted. The carbonic acid and oxygen of the air also exert an influence on such abstracted blood. Without going too minutely into the topic, it will be interesting to point out that when slowly-dried fowl's blood is magnified there arise in the film shining, semi-transparent crystals of the kinds shown in Fig. III. They eventually decompose, along with the remainder of the substance.

WHAT TRAP-NESTING HAS NOT DONE.

THE INEXORABLE LAW OF AVERAGES.—THE MAINE EXPERIMENT STATION RECORDS SUMMARISED.

By "STATISTICIAN."

THE duty you have imposed upon me of presenting to readers of THE POULTRY RECORD some, at least, of the facts and figures to be derived from a study of the work done by the Maine Agricultural Experiment Station, in connection with the abortive attempt to produce a flock of fowls with a mean average of 200 eggs in the first year of laying, has been no light task. The two parts of Bulletin No. 110, issued by the U.S. Department of Agriculture, contain a mass of information presented in various ways, full tables of production during the entire period dealt with, and many calculations and deductions therefrom, and a series of illustrative diagrams showing clearly the results, all of which are a tribute to the arduous labours and careful work of the authors, Drs. Raymond Pearl and Frank H. Surface. If it has not been easy to use their researches, what must the original task have been? However, the attempt is here made, with an endeavour to show some of the lessons to be derived. Both the diagrams and tables, with one exception, which accompany this survey, I am responsible for, preferring to present these in my own way, more especially as those given in this bulletin are very numerous and a selection could not be made to represent the whole.

Briefly stated, the facts are that in 1898, when the experiment was begun, three breeds

of fowls were used—namely (1) a strain of Barred Plymouth Rocks, which had been bred by the late Professor Gowell for a period of some twenty-five years; (2) a strain of White Wyandottes, which had been bred at the station for some years; and (3) a strain of Light Brahmas, which had also been bred at the station for some time. In 1902 the two last-named were dropped out of the experiment, but the observations on the lines to be dealt with, so far as the Plymouth Rocks are concerned, were continued until the end of October, 1907. The figures given below apply alone to that breed. It is claimed that the material used was as pure as is possible to obtain. Since November 1, 1907, when the method of selection described below was abandoned, the experiment took another form, the results of which cannot be fully realised for a considerable period of time. We may expect that to be equal to the eight years already given to the first experiment.

Given the basal stock to work with, as already stated, the *modus operandi* of selection was, in the words of the report, as follows:

In breeding the birds from 1898 the practice as stated in the published reports of the work has been to use each year, as mothers of the stock produced in that year, only hens which have, between November 1 of the year in which they were hatched and November 1 of the following

year, laid 160 or more eggs. The fathers of all stock raised since the breeding season of 1900 have been the sons of mothers whose production in their first laying year was 200 eggs or over.

It is stated that, except in the first year of the experiment, there has been no close in-breeding. No birds as closely related as first cousins have been mated together. Trap-nesting was adopted throughout the entire period. As is usual some birds lay outside the nests, but care appears to have been taken to prevent this, and the number is stated to have been very small.

Here, then, was an experiment conducted by a public body, under conditions that were favourable in the extreme, and upon a fairly good scale, cost not being a difficulty. Had the method of continuously breeding from heavy layers—that is, producers of 30 eggs above the ordinary average, through a series of years—been conducive to a steady increase in the mean production that should have resulted. It is difficult to see how a more favourable opportunity could have been forthcoming. Therefore the figures are of great value, more especially as the experiment was originated and conducted by one who was a firm believer that this was the right system to adopt, and he was not alone in this respect.

The authors of this valuable bulletin have endeavoured in some instances to give weight to special circumstances, such as, in one case, a change of house, but I have decided to take the actual figures as they stand. The farmer has to meet special circumstances which cannot be anticipated, and to bear the brunt. Therefore, what is should come before what might have been.

The report is divided into two parts, the first dealing with the annual production and the second with the monthly production. As is

pointed out, a hen which laid fewer eggs than another might yield a greater profit if these came at a season when prices were highest. I have, therefore, followed the same plan.

First, then, as to the annual averages, the following are the results:

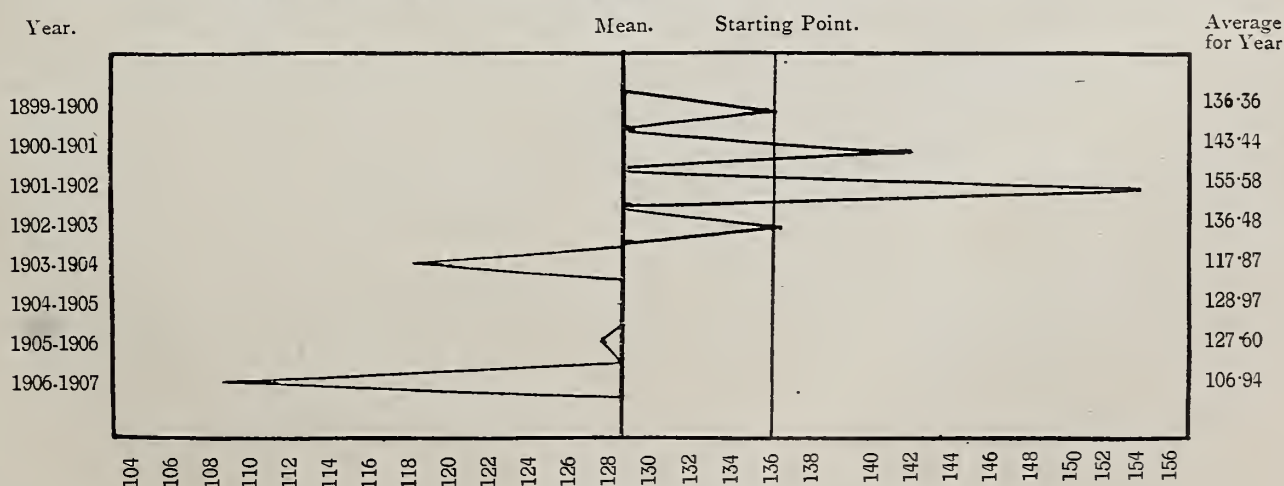
The total number of birds for each year will be found at the foot of Table II. It will be seen that in the second and third years there was a steady advance. In 1901—1902 the average increase was 19.22 eggs over 1899—1900, and it is small wonder that there was a

TABLE I.—VARIATION IN AVERAGE ANNUAL EGG-PRODUCTION.

Laying Year.	Mean.	Yearly + Increase or — Decrease
1899—1900	136.36	—
1900—1901	143.44	+ 7.08
1901—1902	155.58	+ 12.14
1902—1903	136.48	— 19.10
1903—1904	117.87	— 18.61
1904—1905	128.93	+ 11.06
1905—1906	127.60	— 1.33
1906—1907	106.94	— 20.66

disposition to be jubilant and to assume that selection of heavy layers was the sure method of success. But in the fourth year, with double the original stock of birds, there was a drop to 18.49 below it, with a partial recovery in the two next years, and a final fall of an average of 29.42 eggs in 1906—1907 below that of the first year. All the last four of the eight years are lower, in two much lower, than at the commencement. It would appear, therefore, that for a limited series of years breeding from high layers is successful, but that afterwards, whether as a result of reduced vitality through abnormal production, or from some other cause, the

Diagram I.—Showing the Yearly Averages of Egg-Production for Eight Years 1899 to 1907, with Variations above and below the mean (128.86) for the Entire Period.



In 1904-1905 the average was 128.97, practically the mean of the entire period.

ground thus gained is more than lost. A partial rest may redress the balance to some extent, but even that is temporary.

In Diagram I. I give these facts in a form easily grasped. Making the mean of the whole eight years (128.86) a basis, the diagram tells us that four of these, the first four, are above the whole average, one (1904—1905) on the line, and three below, one of which, the last, is very much so. The second vertical line taken at the mean starting point, how-

Taking less than 75 eggs per annum as meaning no profit on the one hand, and 180 eggs per annum as giving a high profit (say 8s. per annum), Table III. shows the percentages each year in the respective groups.

The suggestiveness of these figures is obvious. For instance, in the maximum year, 1901—1902, it was the largely reduced number producing fewer than 75 eggs which gave the higher mean, combined with the larger proportion above 180. On the other hand, in the lowest

TABLE II.—FREQUENCY DISTRIBUTION OF EGG-PRODUCTION (FIRST YEAR'S LAYING) (1889 TO 1907).

Average Annual Egg-Production.	YEAR'S PERCENTAGES.								Total Percentages.
	1889-1900.	1900-1901.	1901-1902.	1902-1903.	1903-1904.	1904-1905.	1905-1906.	1906-1907.	
0-14	—	—	—	—	2.76	1.94	0.51	2.46	0.95
15-29	—	1.18	—	1.36	1.97	2.13	0.63	1.54	1.10
30-44	4.29	—	—	—	1.97	4.08	1.26	3.22	1.85
45-59	2.86	4.71	—	0.68	3.94	3.30	2.36	4.75	2.82
60-74	5.71	4.71	2.08	3.40	3.94	3.49	5.20	6.81	4.42
75-89	5.71	2.35	2.08	5.44	7.87	7.38	7.24	11.19	6.16
90-104	5.71	7.05	4.16	11.56	9.45	6.99	10.23	16.39	8.95
105-119	2.86	8.24	16.67	12.24	11.42	13.20	15.27	15.78	11.96
120-134	14.29	7.06	8.32	11.56	20.47	7.96	14.01	14.09	12.22
135-149	15.71	17.65	2.08	17.69	14.57	11.07	12.60	10.11	12.68
150-164	12.86	5.88	22.92	11.56	11.42	12.24	13.23	7.36	12.18
165-179	17.14	16.47	16.67	12.24	6.29	9.71	8.19	4.29	11.38
180-194	8.57	14.12	6.25	6.12	3.15	5.83	6.31	1.69	6.50
195-209	1.43	8.24	10.42	1.36	0.79	7.77	2.84	—	4.11
210-224	1.43	1.18	6.25	4.08	—	2.13	0.16	0.31	1.94
225-239	1.43	1.18	—	0.68	—	0.58	—	—	0.46
240-254	—	—	2.08	—	—	0.20	0.16	—	0.31
Mean for Year	136.36	143.44	155.58	136.48	117.87	128.97	127.50	106.94	128.86
Total No. of Hens	70	85	48	147	254	515	635	653	2,407

ever, reveals the case in a much stronger light. Two are well above, one a small fraction above the original mean, and the other four largely below, these latter being the last four years. There is no mistaking the import.

From the tables given in Part I. of this bulletin, I have extracted the main part of the figures given in Table II., adding thereto my own calculations as to total percentages, and grouping several lots together. It is unnecessary to enter into detail as to the facts here set forth. They speak for themselves. It may be well, however, to call attention to the increase in low averages as the experiment continued and the reduction in high averages.

years it was the increased number laying less than 75 eggs, and the decreased number laying more than 180, which gave that result. Evidently the true mean is somewhere midway between these two extremes. In 1889-1900 the percentage below 75 eggs was 12.86, which advanced to 18.78 in 1906—1907; in the former year the percentage over 180 eggs was 12.86 (identical with that below 75), which decreased to 2.00 in 1906—1907.

So much for the annual records; now let us look at the seasonal averages. Before doing so, it may be well to quote a paragraph from Part II. of the bulletin:

The laying year may be divided into four natural periods or cycles with reference to egg-

TABLE III.—PERCENTAGES BELOW 75 AND ABOVE 180 EGGS PER ANNUM.

Grade.	1889-1900	1900-1901	1901-1902	1902-1903	1903-1904	1904-1905	1905-1906	1906-1907
Below 75 Eggs ...	12.86	10.60	2.08	5.44	14.58	14.94	9.76	18.78
Above 180 Eggs ...	12.86	24.72	25.00	12.24	3.94	16.51	9.47	2.00

production. The first of these periods (roughly November 1 to March 1) is the winter period, wherein egg-production is essentially a non-natural (i.e., forced or stimulated) process. The second or spring period (roughly March 1 to June 1) is the natural laying period of the domestic fowl in its reproductive cycle. The third (roughly June 1 to September 1) and fourth (roughly September 1 to October 31) periods are not sharply separated from one another.

The only table bodily taken from this bulletin is Table IV., the first and third columns of which are illustrated in Diagram II. (See next page).

TABLE IV.—MONTHLY MEANS AND AVERAGES,
1899 to 1907.

Month.	Mean Egg-production per month.	Mean production from Nov. 1 to end of month.	Percentages of total yearly egg-production.	Percentages from Nov. 1 to end of month.
	Number	Number	Per cent.	Per cent.
November	4.63	4.63	3.59	3.59
December	8.91	13.54	6.91	10.50
January ..	11.71	25.25	9.08	19.58
February ..	10.87	36.12	8.44	28.02
March	16.11	52.23	12.50	40.52
April	15.85	68.08	12.30	52.82
May	13.92	82.00	10.80	63.62
June	12.46	94.46	9.67	73.29
July	10.87	105.33	8.44	81.73
August	9.84	115.17	7.64	89.37
September	8.19	123.36	6.36	95.73
October.....	5.50	128.86	4.27	100.00
Totals	128.86	—	100.00	—

According to this table the production in each of the divisions of the year made by Drs. Pearl and Surface; as stated above, were:

First : November 1 to February 28 ..	4 months ..	28.02
Second : March 1 to May 31 ..	3 ..	35.60
Third : June 1 to August 31 ..	3 ..	25.75
Fourth : September 1 to October 31 ..	2 ..	10.63

In Table V. I have taken out the percentages of frequency distributions over the entire period in accordance with the months. This needs no explanation, as it is sufficiently clear, save to say that during all the eight Novembers 55.22 per cent. did not lay at all, 6.36 per cent. produced one egg, 2.18 per cent. two eggs, and so on. Three hens distinguished themselves by each laying thirty-one eggs in a month.

It will be seen by this table that throughout all the eight years ten out of the twelve months show a steady decline in mean egg-production, in some cases considerably so. The exceptions are the months of November and March, in which a slight increase is to be noted. It is thus seen that selection has had no influence in maintaining or increasing winter egg-production.

It only remains to deal with one other point—namely, that in 1904-5, 1905-6, and 1906-7 the birds were divided into flocks of 50, 100, and 150 respectively, in order to test the size of flock and floor space in relation to mean annual egg-production. The 50 and 100 bird houses

TABLE V.—PERCENTAGE FREQUENCY DISTRIBUTIONS IN EGG-PRODUCTION MONTHLY
(1899 TO 1907).

No. of Eggs laid in month.	MONTHLY PERCENTAGES OF HENS.											
	November	December	January	February	March	April	May	June	July	August	September	October
0	55.22	37.68	27.17	13.38	2.83	2.29	4.90	0.82	12.34	14.33	23.02	44.07
1	6.36	5.11	4.45	3.51	1.00	1.20	2.03	1.83	1.99	4.53	6.11	6.50
2	2.18	2.78	2.95	2.83	0.54	0.66	1.37	1.25	1.45	2.20	3.57	2.96
3	1.72	2.12	2.70	2.70	0.79	0.79	0.96	1.12	1.12	2.29	2.66	2.17
4	1.21	2.62	2.45	2.83	1.08	0.75	1.74	1.41	1.74	2.20	2.87	2.34
5	1.67	2.37	1.99	3.49	1.20	0.96	1.95	1.29	2.29	2.83	3.70	2.51
6	1.72	2.04	2.66	2.87	1.04	1.04	2.29	1.87	2.70	3.20	3.78	2.17
7	1.49	2.20	2.04	3.74	1.83	1.37	2.41	2.24	3.57	3.41	3.95	2.34
8	1.49	2.45	2.29	3.24	2.66	1.16	4.15	4.15	4.7	4.28	4.15	2.57
9	1.90	2.41	2.49	2.74	2.87	2.41	3.78	4.49	5.19	4.36	3.70	3.19
10	1.81	2.78	2.91	3.86	2.62	3.16	5.23	5.36	6.52	6.27	3.86	2.28
11	2.28	2.16	2.16	3.03	3.91	3.28	7.06	7.15	6.98	7.02	4.15	3.48
12	1.67	2.24	2.58	3.91	4.53	4.94	6.19	7.52	6.81	6.27	4.11	3.13
13	2.83	2.29	2.99	3.12	4.07	5.19	6.56	6.27	6.94	5.90	4.36	2.96
14	2.18	2.45	2.99	4.82	4.20	6.23	6.48	6.69	5.93	5.40	3.57	3.08
15	3.58	1.87	3.53	5.1	4.28	6.98	6.23	6.02	4.94	5.11	3.28	3.24
16	1.67	2.99	3.70	6.56	5.48	6.73	5.03	6.27	4.53	3.91	2.95	3.19
17	2.00	2.49	3.78	5.61	6.23	7.73	5.40	4.82	3.95	3.49	3.82	2.45
18	1.81	3.61	3.91	6.73	5.94	7.69	4.61	4.03	3.36	3.12	2.53	2.17
19	1.90	3.32	4.03	5.23	7.40	7.10	4.49	4.03	3.28	2.78	3.78	1.08
20	1.07	2.95	3.91	4.94	7.10	7.64	4.24	4.45	2.49	2.20	2.12	0.86
21	1.11	2.33	4.49	2.99	6.56	6.81	3.86	3.74	2.45	1.66	2.29	0.51
22	0.60	2.33	3.74	1.70	7.40	5.15	3.24	2.49	1.50	0.87	1.41	0.17
23	0.23	2.04	2.04	0.58	6.11	3.95	2.49	1.83	1.45	1.45	0.71	0.22
24	0.28	1.45	1.20	0.33	4.61	2.62	1.37	0.66	0.83	0.46	0.25	0.22
25	—	0.62	0.54	0.04	2.24	1.20	1.04	0.46	0.46	0.29	0.17	0.06
26	—	0.17	0.21	0.04	0.91	0.62	0.46	0.33	0.25	0.12	0.12	—
27	—	0.12	0.12	—	0.33	0.21	0.21	0.03	0.17	—	—	0.06
28	—	0.04	—	—	0.21	0.12	0.08	0.12	0.04	0.04	—	—
29	—	—	—	—	0.04	—	0.04	—	—	—	—	—
30	—	—	—	—	—	—	—	—	—	—	—	—
31	—	—	—	—	—	—	0.04	—	0.08	—	—	—

had an average of 4.8 square feet of floor space, while the 150 houses had 3.2 square feet of floor space for each bird, with, it may be assumed, the same head room throughout. The results are very striking indeed, showing that with increased numbers there is a decrease in average production, as given in Table VI.

TABLE VI.—SIZE OF FLOCK AND MEAN EGG-PRODUCTION.

Year.	Mean Annual Egg-Production.			Excess of 50 over 100-bird pens.	Excess of 50 over 150 bird pens.
	50-bird pens.	100-bird pens.	150-bird pens.		
1904-5	134.60	133.61	114.54	0.99	20.06
1905-6	140.31	127.50	119.43	12.81	20.88
1906-7	114.16	108.53	101.08	5.63	13.08

In the first of these years the 50 pens were an average of less than an egg better than those in the 100 pens. With that exception in every other instance the 50-bird pens are above the 100, and the 100 above the 150, the difference between the 50 and the 150 in the three years being nearly 14 per cent. in favour of the former.

A striking fact which, while it does not seriously affect the meaning of this eight years' experiment, yet modifies the figures considerably, is that if in the years 1904 to 1907 the 100 and 150 pens had not been included, and only those in 50-bird pens reckoned, the mean for the entire period would have been 134.60, or 5.74 above what is recorded, and within 1.76 of the first year. It is to be regretted that this alteration was made. This is, however, strongly in support of the statement that small flocks are preferable. There is only one exception to this rule. During the winter months the birds kept in larger flocks gave quite as good results as those in smaller lots. It was at other seasons where the differences are most marked. The inference would be that in the colder months concentration of flocks may take place, but at other seasons division is important.

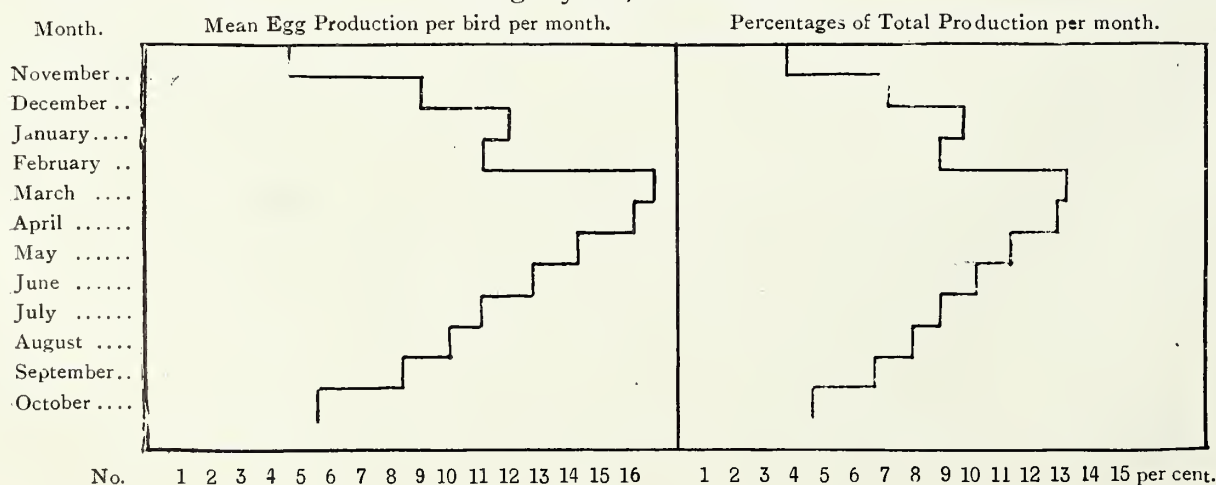
WHO'S WHO IN THE POULTRY WORLD.

MR. WILLIAM BIBBY.

ALTHOUGH the keeping of poultry has become a serious business of late years, and more people than ever are devoting close attention to it, there are comparatively few who are so far advanced in poultry culture as to be capable of successfully managing an extensive farm at which both the utility and exhibition aspects are dealt with on up-to-date lines. It says much, therefore, for the abilities of Mr. William Bibby that, acting as manager of the Bolton Model Poultry Farm at Westhoughton, Lancashire, from its beginning, he has been the means of bringing that farm to its present high state of perfection. Like other poultry folk who come out on top, he was "to the manner born," since he is the youngest son of the late Mr. John Bibby, of Preston, corn factor, and breeder of Blue Andalusians, Black Spanish, and Buff Cochins. His early training was such that when the opportunity came for him to devote his attentions solely to poultry he did not let it slip by, but went into the business in a whole-hearted manner, and proved at the outset that his knowledge of breeding and exhibiting was not based on theory alone.

His youthful recollections of Blue and Buff fowls no doubt account for Mr. Bibby's present fancies, since at the Bolton Model Poultry Farm birds of both varieties in several breeds and more than one section are to be found; and those fanciers who care to visit the farm—the principals of which are Messrs. G. M. and W. W. Dobson—will see specimens of both kinds in almost countless numbers and, moreover, of particularly high quality. It is one thing to exhibit fowls to be successful in the strongest competition, but the "art" of fancying is to be able to select and mate the stock that the progeny will give the desired results. No man knows better than the subject of this brief note how to stage a show bird, and, it is equally true that he has not a superior in picking out the correct birds of various colours to form the breeding-pens, both of which, admittedly, are very valuable assets for the manager of a first-class poultry farm.

Diagram II.—Average or Mean Production and Percentages of Total Production per Month for eight years, 1899 to 1907.



The fact that his father was a corn factor, and that he himself had no small experience in that line, no doubt prompted Mr. Bibby to consider the feeding of the stock in his charge in a more serious manner than is often the case. He has made a special study of the subject of feeding poultry, and he is the inventor of several excellent poultry foods, which are not mixtures manufactured solely to fill the pockets of



MR. WILLIAM BIBBY.

the makers; they have been thoroughly tested on the farm and are guaranteed to give good results if used in a proper manner.

As a fancier Mr. Bibby is well known, and his early training in another sphere—he was for twenty-one years a missionary of the Workmen's Rest, Bolton, and is licensed as a lay reader by the Bishop of Manchester—has stood him in good stead, and he has a wide circle of friends in the Fancy. At present he is chairman of the Lancashire Branch of the Poultry Club and delegate to the Council, and at headquarters he is considered as "a very useful member."

MR. CHARLES H. DOBBIN.

UPON whoever is in charge of the poultry section at the Lancashire County Council Farm at Hutton rests a great responsibility, as it is within his power to influence greatly poultry breeding in that important county. Such duty has recently fallen to Mr. Charles H. Dobbin, who for the last seven years has shown his capacities at the Midland College at Kingston. The opportunities there were not so great as at Hutton, where with a large and excellent equipment his scope is vastly widened. The problems, however, presented in the new area differ very considerably from those met with in the Midlands.

A son of the late Rev. A. J. L. Dobbin, vicar of Cropwell Bishop, Notts, Mr. Dobbin early took an interest in poultry, starting with Houdans, inspired and helped by the late Mr. J. P. W. Marx, with which he was very successful as an exhibitor, and afterwards added Golden Wyandottes to his stock.

With these he also won many honours. The experience thus gained led to his appointment at Kingston, where his attention had to be given more especially to utility breeding and production. From practically nothing the poultry section was turned into a fairly prosperous concern, and last year showed a profit of nearly £47. This was due to the sale of sittings of eggs, day-old chicks, and table-fowls. Several hundreds of chickens were bought annually from the local farmers and fatted on Sussex lines, the shed having a capacity of 250 birds. Many of these found their way to the London and other markets. Considerable additions were made to the breeds of fowls kept, the object being to show nearly all those which are of practical value for egg- or flesh-production. In addition to the college work, which included lectures to students and practical training, Mr. Dobbin gave a considerable amount of time to lectures under the respective county schemes in Notts, Leicestershire, Derbyshire, and the Lindsay division of Lincolnshire, of which North-East Notts and Lincolnshire have shown the best results, as these



MR. CHARLES H. DOBBIN.

are far ahead of the other counties in the methods of poultry-keeping. It will be seen, therefore, that he has had an excellent training for the larger work now undertaken, and it may be anticipated that he will make the farm at Hutton an even more important centre for promoting the poultry industry.

FANCIERS AND FANCY MATTERS.

By WILLIAM W. BROOMHEAD.

Mr. Richard Watson's Wyandottes—A Bantam Note—How Type is Changed—Warned Off—An Exporting Trick—Columbian Wyandottes—Laying competitions—Blue Wyandottes—Where are the Amateurs?—Withholding Prizes—Read the Rules—Overlapping—Those Titles.

MR. RICHARD WATSON'S WYANDOTTES.

Despite the ups and downs of the Partridge Wyandotte—some enthusiasts do say that the variety has never yet experienced a "down"—there can be little doubt that at present it is going very strong indeed. In fact, seldom before in its history has competition been as keen as it is this season. To be in the front rank, therefore, means that one

birds of the very best quality in his own pens. And I think he has proved, in the wisest manner possible, —viz., by entering his young stock in the keenest competitions and winning many first and special prizes under different recognised authorities—that as a breeder of Partridge cockerels he is almost unassailable. Things are not done by halves at Thorn Garth, and the whole arrangements reflect the greatest credit on both the owner and his poultryman. Already this season Mr. Watson's chickens have gained the highest possible awards at more than one of the classical fixtures of the summer; but the full strength of his 1911 hatch will not have been seen until the autumn and winter shows are events of the past. It is unquestionable that the Partridge Wyandotte has a brilliant future before it, since the variety has been put through a hard test and found to possess qualities that must appeal to every poultry-keeper.

A BANTAM NOTE.

A few weeks back it was reported, in a contemporary, that some person or persons had visited Mr. Fred Entwisle's famous Bantam yards at The Firs, Calder Grove, near Wakefield, and decapitated several of his best birds. One of his noted White Pekin cocks was found in such a state in the show house, although, remarkable to relate, the other birds penned there at the time, and some thirty all told,



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MR. WATSON'S PARTRIDGE WYANDOTTE PULLET.
2nd Hayward's Heath Show, 1911.

has to possess specimens of more than ordinary merit. One of the most successful exhibitors of Partridge Wyandottes during the past two or three years is Mr. Richard Watson, of Thorn Garth, Thackley, near Bradford, and a better stock of the variety than that which he keeps in the spacious grounds surrounding his residence it would be difficult to find. Recently Mr. Watson was "at home" to members of the Partridge Wyandotte Club, and fancier friends, to celebrate his term of office as president of the club; and the company did not disperse until a thorough inspection had been made of the yards where his famous Wyandottes are bred and reared. Like almost every fancier who has attained eminence, Mr. Watson had not only to purchase good stock at the commencement of his career, but he has had to buy his experience. However, so well did he go "through the mill" that he is now in a position to produce



[Copyright.]

MR. GILBERT'S SPANGLED ORPINGTON PULLET.
1st and Challenge Trophy. Hayward's Heath Show, 1911

were left unmolested. In a range of cockerel boxes, however, a White hen was found with her head off, and a pair of exhibition Whites had met a similar fate, while further afield Mr. Entwisle's best White Polish cock and one of his Palace and Club Show winning hens had been so treated, and a Dark Brahma Bantam cock and a Light cock had also been beheaded. As can be imagined, even in such a large establishment as that at The Firs, the loss was not

a light one; and the raid had evidently been carried out with the idea of giving Mr. Entwisle a severe set-back this season. Subsequent events, however, have proved that "someone had blundered," since at the great Penistone Show—one of the best events for Bantams in this country—Mr. Entwisle had twenty-four birds staged, and in addition to winning specials with a Wyandotte, a Pekin cock, a Polish hen, and Frizzles, his team secured twenty-one money prizes, two reserves, and a "very highly commended"; while at Redcar Show the half-dozen Bantams he penned, and a duplicate lot, won two special prizes, two firsts, three seconds, and a third. And, as far as I am able to gauge, there is not much likelihood of the famous yard going under yet awhile!

HOW TYPE IS CHANGED!

"Do you know that Mr. — has given up the secretaryship of the — Club, and that Mr. — has taken it over? The latter fancier believes in big birds, and not as short on the legs as those favoured by a former secretary, who did so much to bring the breed into prominence." The foregoing appears in a letter I have just received from a friend who is a most enthusiastic exhibitor of the breed concerning whose welfare he writes to me, and he is of the opinion that the change in the office will lead to a decided change in the type of future winners. We shall see. It has always been thought by most fanciers that change of type is brought about by a ring of exhibitors in collusion with a select few of the judges at the chief events of the season, or by some such method. It is news, to me at least, that the fad of a club secretary could have much bearing on the matter. However, I will take particular note of the progress of the breed at forthcoming events, and report thereon when the present show year has closed down.

WARNED OFF!

Turning up some schedules of shows announced for last month I came across one containing a certain condition that I imagine creates a record for poultry exhibitions of the present time. And I am wondering if any of those exhibitors who entered birds at the event noticed it. It was one of the special rules for the poultry section of Presteign (Radnorshire) Show. "No one exhibitor to win more than five first prizes and two specials." It is quite evident, of course, that the executive had no wish to encourage deck sweeping. It would be decidedly interesting to know, however, if such a rule could be carried out within the letter of the law, and if I were a teamster I would like to have tested it. To say that no one exhibitor would be allowed to enter birds in more than five classes would be within bounds. But what would have happened had a teamster entered a big lot of poultry and won more than five first prizes and two specials? Competition was open to anyone. Give the small man a chance, by all means, but let it be done in a proper manner.

AN EXPORTING TRICK.

One hears so much at different times about English fanciers sending inferior specimens abroad when big prices have been paid for stock that some people are apt to imagine that exporters are—well, something akin to scoundrels. I have pleasure, therefore, in

quoting part of a letter, sent to me a few days since, from a well-known fancier in this country. He says: "I have just secured a big order for Brazil from a South American, who came down here to see my yards. He tells me that some of these sharp South Americans tip the sailors on board to change the



RUMPLESS COUCOU DE MALINES. [Copyright.]

birds if they see any better than their own." It makes one think.

COLUMBIAN WYANDOTTES.

There appears to be some misunderstanding in Columbian Wyandotte circles as to which is the correct colour for exhibition specimens of this variety. Writing to a contemporary, Mr. J. Thorp Hincks, of Leicester, points out that prior to the Crystal Palace Show of 1910 the colour was described as "pearly white," with dark or white under-colour, as one pleased; but at the annual meeting of the Columbian Wyandotte Club, at the show in question, it was decided that the colour was to be "white," not pearly white, and that the under-colour was to be white. It is strange that this alteration—and no small change, be it remembered—has escaped the notice of many

fanciers who are keenly interested in the Columbian; and in view of the fact that the standard adopted by the club says: "Rest of plumage, white entirely free from ticking, the under-colour being either slate, blueish white, or white," it is difficult to conceive why white under-colour only should be insisted on. One of the chief beauties of the Columbian—as also of the Light Brahma and the Light Sussex, which are similarly marked and coloured—is the black-striped neck hackle; and I fear that if none other than white under-colour is to be recognised it will lead to very light striping in the neck hackle. However, I hear that the club has the matter under consideration again, and that it is to be brought before members at an early date.

LAYING COMPETITIONS.

It looks as though the specialist poultry clubs are coming into line at last. It is already reported that the Buff Plymouth Rock Club has decided to support the Northern and Southern Laying Competitions which commence during the present month, and that it will offer prizes of £1, 10s., and 5s. to each section for the three highest pens of Buff Rocks, such prizes to be open to the world. I hear, too, on good authority that the Brown Leghorn Club intends to offer similar inducements, so I hope that by another year other specialist clubs will follow the lead. All of us who are fanciers claim that our birds lose none of their utility properties by being bred to "fine points"; and I have always maintained that good layers and suitable exhibition specimens can be obtained from the same strain and often enough combined in the same bird. This I have proved not only as my own experience but as that of many other fanciers. It is a mistaken notion that a great layer must be "as thin as a rake." Among my fowls the best egg-producers are generally—nay, invariably—the healthiest looking and the heaviest handlers. It is only in very few breeds indeed that the overfed specimens get the pick of the prizes at shows, and even that craze is going out, since judges who know their work recognise that it is an easy matter to fatten a fowl.

BLUE WYANDOTTES.

The general meeting of the Blue Wyandotte Club, held recently at Lancaster Show, appears to have been an enthusiastic one, and the hon. secretary reports that a strong company was present. It is strange, however, that reports of such meetings as these are not more widely circulated in the Press, and no good can come of making them "hole and corner" affairs, as I believe was the case with the one of the gathering in question. Quoting from a report in a contemporary—apparently the official one, since it is signed by the hon. secretary—I see that colour is to be the all-important point in the Blue Wyandotte, and an even shade, a "soft dove colour" as I have seen it described, from the crown of the head to the tip of the tail, is to take precedence. Black tops and any foreign colour, "straw, chocolate, and grizzle," are to be discouraged, although darker shades of blue on top are permissible. That being so, I am afraid there will not be many "stormers" out this season! Breeders of the variety have still much to do ere they can produce a specimen anything like the ideal kind. However, here is wishing them success in the undertaking.

WHERE ARE THE AMATEURS?

Yes, where are they? "Under *our* rules the amateur gets his chance." I quote from the front cover of the schedule issued by the Southport Fanciers' Society in connection with its second annual £3 limit show—"the amateur's chance, the deck-sweeper's stumbling-block"—announced for September 16. This show last year got such a boom as seldom falls to the lot of any fixture, and those who were "running" it this year have not been backward in bringing it to the notice of the public. In a letter headed "Amateurs, Defend Yourselves" that appeared in the Fancy Press the secretary sketched the case for the amateur in quite a pathetic manner, and his appeal should have touched the chords of the most stony-hearted amateur in the Fancy, his reference to the shackling with the fetters of professional monopoly being a particularly brilliant passage. And yet what do we find? Entries for the event were advertised to close on September 5, but on September 8 the secretary was advertising, "Where are the amateurs? Several classes no entry. Compelled to extend. Send on; I will classify. Will accept Monday's postmark." The irony of it all!

WITHHOLDING PRIZES.

The withholding of prizes at poultry shows, no matter for what reason, will for ever cause adverse comment among fanciers. When they may be withheld "for want of merit"—a condition that appears among the rules of most exhibitions nowadays—the question is one that the judge alone must decide; and should he conscientiously drop a prize here and there, solely because the birds in competition are not of as high quality as they should be, he is, so I have been told, "looking for trouble." Considered from the exhibitor's point of view the rule is said to be a harsh one; he has had to pay entry fees and carriage, and he would not do so for specimens which he considered were not fit to have a run for the money. That may be; but it must not be forgotten that all the birds entered in a class cannot gain first prizes—cannot, as a matter of fact, be "in the money." Hence the "want of merit" rule is good enough. There is another, however, that I came across lately that is, to say the least of it, absurd. "The committee reserves the right to withhold a prize in any class that is insufficiently filled"; yet no mention is made of the number of entries that would constitute a sufficiently filled class! Verily, exhibitors should read the rules.

READ THE RULES.

Yes, intending exhibitors *should* read the rules. At a show held last month the prize-money appears to be 15s. first, 7s. 6d. second, and 3s. 6d. third. But—and no mention of the sliding scale is made at the head of the poultry classes—a certain rule reads thus: "Full prize-money will be paid in all open classes with more than ten entries. Should there be less than ten the whole of the entry fees will be divided as follows: First 50 per cent., second 30 per cent., third 20 per cent." No mention is made of the classes that have exactly ten entries! But that by the way. In all fairness to exhibitors any sliding scale that is to be adopted—the one in question is generous, to say the least of it—should be notified where the prize-money is stated.

OVERLAPPING.

When two societies within a near area have decided to hold their shows on the two following days it is the usual custom for the secretary of the first to announce that he will undertake to forward to the other event any birds entered for both. And often enough it is a great inducement for fanciers to patronise the two fixtures. A record slip in this direction, however, occurred towards the end of last month. On the schedule of the Weston-super-Mare Show (September 28) it is announced, "The secretary of Frome Fanciers' Society has kindly promised to send off birds from the show to reach Weston-super-Mare the same night, and the secretary of the Weston-super-Mare Show will personally see that all birds entered will be properly penned and receive every attention on arrival." The said Frome Show was a two-day affair, and the two days were September 27 and 28! Of course, it is possible to read the Weston-super-

BREEDS AND MANAGEMENT FOR WINTER LAYING.

By FRED. W. PARTON.

IT is perfectly true that any breed of fowls, provided the chickens are hatched at the right period of the year, will lay in the winter. At the same time, there are many breeds fitted by nature to withstand the severity of the colder months, and they produce eggs when other breeds require all their surplus energy to maintain bodily heat. It is well known, even by the veriest novice, that in the classification of poultry there are varieties placed under the heading of general purpose breeds, and it is the birds coming under this class that are usually claimed as winter layers. Chief among these are the Wyandotte—with its ten or twelve sub-varieties—the Plymouth Rock, the Orpington, the Rhode Island Red, the Brahma,



[Copyright.]

IF LAYING HENS CANNOT ENJOY FULL FREEDOM A LARGE RUN IS THE NEXT BEST THING.

This photograph was taken last winter on one of the largest poultry farms in the kingdom.

Mare note in two ways! But, evidently, "someone had blundered."

THOSE TITLES!

"The Palace of the North." This is the title the Monkwearmouth Show executive claims for its annual event. But where is Monkwearmouth, asks the Southerner! The Post Office Guide will not assist him, and the name does not appear in the A.B.C. railway guide; and yet, Eureka! turning to a gazetteer of the British Isles, he will find the following entry: "Monkwearmouth, railway station, N.E.R., Durham, in borough of Sunderland." Being a native of the North I know that it lies about twelve miles—eleven and three-quarters by rail, to be correct—from the "canny toon." But I blush for "The Palace of the North" with its ten classes for Bantams and none others for poultry!

and the Langshan. It is often asked, Why do these birds excel as winter layers? There are many contributory factors towards this end, such as the natural protection of their feathers, which are in greater profusion than in the case of the Mediterranean breeds; also, the place of their origin differs from that of the non-sitting races. While freely acknowledging all these natural qualifications, and giving full credit for the undoubted help they render in encouraging winter laying, it must be admitted that sometimes too much is taken for granted, and when any of these breeds are kept disappointment is freely expressed if they do not bear out all that is claimed for them.

To obtain a large proportion of the year's egg yield in winter it is not enough to keep one of the above-mentioned breeds, and imagine when this is done that eggs will be produced without any further trouble. Winter eggs have to be bred for, fed for, and

managed for. Having chosen the breed, a rigid selection of the progeny is then necessary, equally necessary, in fact, as it is for the propagation of any other characteristic, either fancy or economic. Strain is of the utmost importance, and a strain of winter layers can only be built up by careful and systematic selection.

Special management is also essential, and this should commence at the time the chickens are hatched. A definite date for hatching cannot be given equally to suit everyone, since there are several things that must be considered before determining this matter. The quality of the soil is too often entirely disregarded, and yet, to a considerable extent, it has an important bearing on the subject. It is upon a heavy clay soil that the best eggs are produced, since there is an abundance of natural food to be obtained therefrom; but chickens are much slower in growth. There are other soils, light and sandy, which encourage early maturity. Consequently, upon the former soil, hatching should commence considerably sooner in the year than under more favourable conditions.

It is a general impression that all birds classified as general purpose breeds are exactly alike so far as their general characteristics are concerned, both externally and economically, and that they grow at about the same rate and mature at the same age. To a large extent this is quite true, but strain here again plays an important part. Breeds, and also members of the same breed, vary very considerably in the speed with which they grow, and it must not be imagined, as it frequently is, that only the rapid growers should be selected as the winter layers, since there is no great benefit obtained by so doing. Birds that slowly and gradually attain the laying stage are much more reliable egg yielders than are those "coming on" before they mature in other directions. The benefit in being able to foretell, so far as it is possible, what the birds' growing capacity is, is that then an idea as to when hatching should commence is gained, in order that they may be relied upon to lay when eggs are becoming scarce. Both too early and too late hatching, when the object is winter egg-pro-

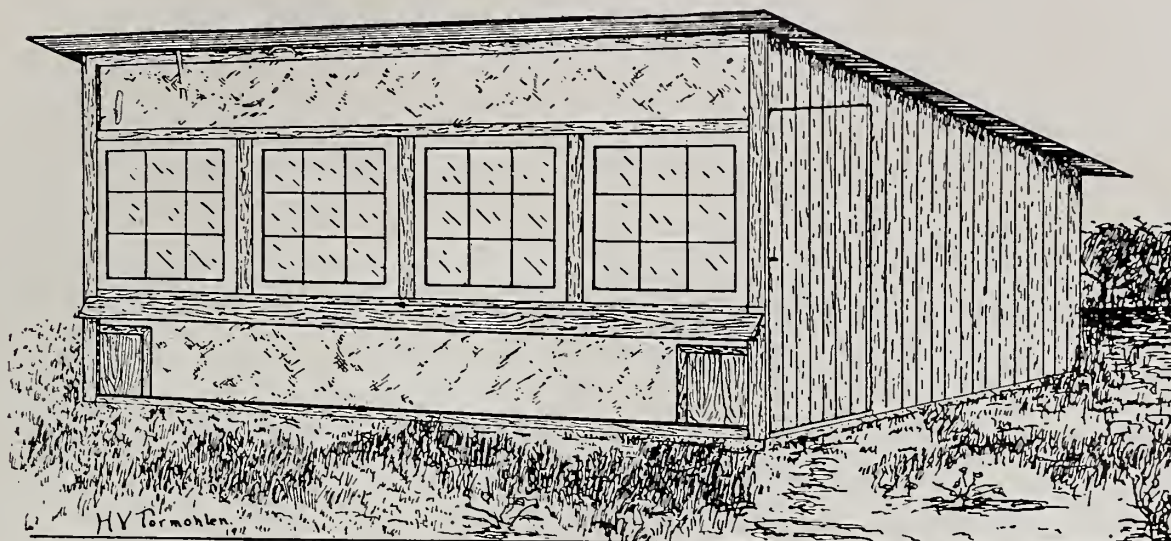
duction, are to be discouraged. If the chickens make their appearance in January or February, they will almost to a certainty commence to lay in August, with the inevitable result that they enter the moult about the time that they should be laying in real earnest. This will delay matters eight or nine weeks, and at the very time which should be the poultry-keeper's harvest. It is, of course, quite possible to retard them for a few weeks, but this must be very judiciously done, or it will be found that it gives a check in other directions. The other extreme, too late hatching, is bad, in that the birds are not sufficiently feathered before they have the cold weather to contend against, which keeps them for months in a very backward condition. A further and a very serious objection to late-hatched birds of both sexes is that the following season they may be, and very often are, used for stock purposes early in the year, before they have reached the proper age for the purpose. When a large number of chickens is bred at different periods, it is a very difficult matter to avoid doing so, since by February or March there is really very little indication to distinguish between those that were hatched the previous March or April and those hatched, maybe, in June. Hence, unwittingly, the mistake may be made, which will have an evil influence on future chickens. Speaking generally, the best results are obtained when the heavy breeds are hatched in March and April.

The importance of good and warm housing, with adequate shelter, cannot be too strongly emphasised in connection with winter eggs. The two must go together—good housing for night accommodation and shelter, when it is required, in the daytime. The importance of shelter is realised by the farmer for every other branch of live stock, but rarely do fowls enter into the calculations to anything like the same extent. Yet it is equally necessary. It is no exaggeration to say that however well hens may be naturally equipped by protective feathering, this will be of very small account if they are ruthlessly exposed during cold and rainy weather. We must not leave all to nature's provision, but rather reserve this force and utilise in a profitable direction what would otherwise exhaust itself.



CAPITAL WINTER LAYERS—WHITE PLYMOUTH ROCKS.

[Copyright.]



AN AMERICAN POULTRY - HOUSE.

By H. V. TORMOHLEN.

POULTRY-HOUSE architecture has gone through as many and radical changes and has progressed quite as much in the last few years as dwelling-house architecture. Only a few years ago the poultry-house was merely a roosting room, and was dark and poorly ventilated. Then to make a success with the flock it was found that the poultry-house should be made a living room for the fowls, during the winter months at least. It was then that the glass front house sprang into prominence. Whole south sides of houses were made of glass. But these houses absorbed so much heat during the day and cooled off so rapidly in the evening that the health of the fowls soon became seriously undermined. With this style of house, too, the problem of proper ventilation never became satisfactorily solved. Popular opinion then went to the other extreme and we had poultry-houses with canvas fronts, and now we have them with the front entirely opened. The difficulty with the canvas front was the lack of sunshine which the fowls so much crave during the cold winter months. The canvas front admitted fresh air in abundance, but obstructed the direct rays of the sun. The open front house admitted both, of course, but these houses do not protect the flock from the severe and many changes of the weather enough to make the getting of eggs every month in the winter a certainty.

Primarily, all poultry-houses should face the south or south-east, and the one door should invariably be on the east end. The ground upon which the house is built should be well drained and with a sandy or gravel surface if possible. Near or in an orchard makes an ideal place.

The design of the house shown is pleasing architecturally and combines economy and convenience. Built as planned with cement and glass front, a warm, dry, and sanitary house is assured. These,

together with an abundance of sunshine and fresh air, are the prime requisites of a good poultry-house.

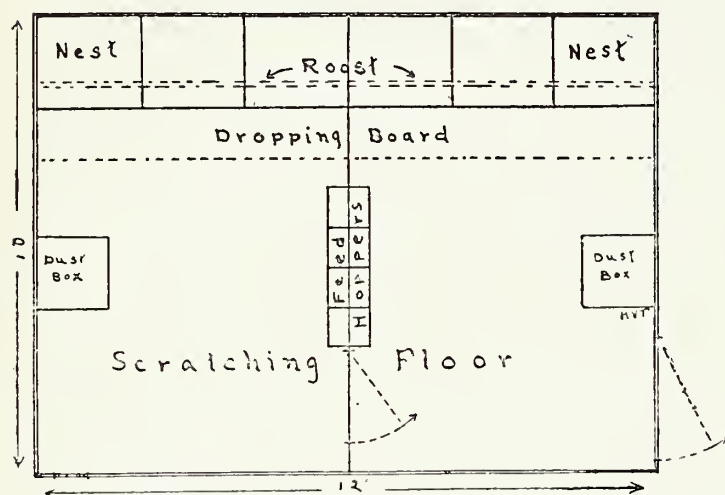
A trench for the foundation is dug one foot wide and one foot deep. Coarse cement is filled in the trench and the foundation is built six or eight inches above the surface. The part of the foundation above the surface is made of a greater proportion of cement. The earth dug out of the trenches is filled in under the floor. Coarse stone, gravel, or cinders is used to fill in the floor within an inch of the top of the foundation. This should be stamped down very tight. A thin layer of coarse cement—an inch to an inch and a half in thickness is sufficient for poultry-house flooring—is filled in on the cinders. Finish the floor out with an inch of richer concrete for a top dressing. It will be noted that the two by four-inch quartering and boarding nailed to them are dropped an inch or more below the surface of the floor made by imbedding a two by four in the cement above the foundation and removing it after the cement hardens. Dropping the boarding thus below the surface of the floor prevents water from beating rains flowing in under the boarding and upon the floor, as it does quite frequently where the house is built upon a flat surface cement floor.

The house may be made from tongued and grooved boarding or cheap rough timber and covered with roofing paper. In either case the roof should be covered with cheap sheathing timber and with a good grade of roofing paper or felt. Shingles or tin should not be used in any case. The sheathing should be laid on the roof across the short dimension of the roof as shown by the interior elevation, to eliminate many rafters and to make the roof tighter upon the framework.

Approximately what is required in the way of timber for the building is described on the next page.

Seven 2 by 4's 12ft. long; three 2 by 4's 8ft. long; three 2 by 4's 4ft. long; four hundred square feet of rough timber for three sides and the roof.

The house is 10ft. by 12ft., the roof 12ft. by 14ft., and the house 7ft. high in front and 4ft. in the rear. Do not make the mistake of making a larger house. This house will accommodate twenty-five hens easily, and if a larger flock is kept several of these houses should be built about the orchard. Fowls will not do so well where they are kept in large houses or large flocks. It is more natural for six or ten fowls to roam about together. The house is divided into two parts or pens, thus making the work of caring for the fowls easier and giving each bird a better chance. The partition dividing the pens should be built up solid about 2ft. high, so the fowls cannot fight through the cracks. Above this may be wire netting.



Floor Plan of House Referred to by Mr. Tormohlen in Accompanying Article.

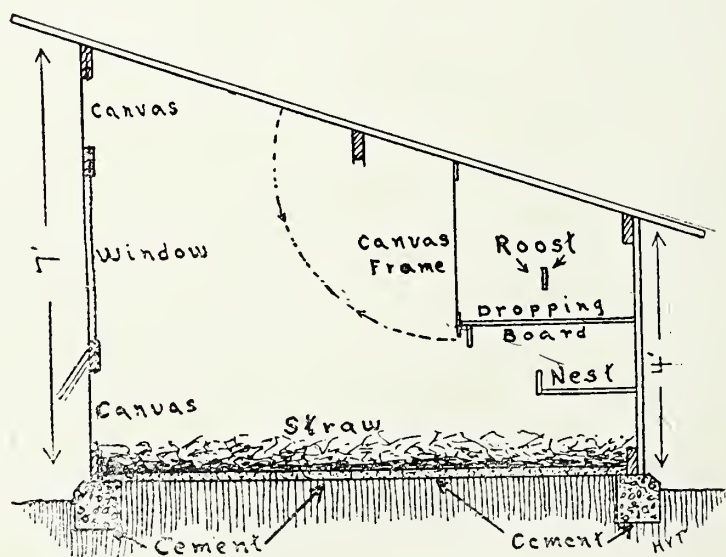
A single roost or perch is made along the north wall well up under the roof. It should be placed about fifteen inches from the roof and the same distance from the rear wall. A shelf dropping-board thirty inches wide is built six or eight inches beneath the roost. This should be made of flooring or hard pine and painted with pitch to make it impregnable to moisture. With a rake or hoe the board may be cleaned in a moment of time. Three or four nests in each part are built directly beneath the dropping-board. The dust-boxes are also built up off the floor about twelve inches, thus leaving the entire floor space for the straw litter for scratching. The floor should be covered with six or eight inches of straw at all times into which the small grains are thrown which furnishes the fowls' exercise; so beneficial to their health.

A canvas curtain tacked upon a frame is hung in front of the roost to drop down and meet the front edge of the dropping-board. It is used only on very cold nights. With this curtain down the fowls are enclosed in a cosy little compartment with plenty of fresh air passing through the canvas all the time.

The windows, four in number, may be twenty-four inches by twenty-four inches or twenty inches by thirty inches. They are placed midway between the top and bottom of the house. Above and below the windows are covered with canvas, which may be tacked

to the two by fours, or on frames and hinged to the two by fours, so they may be opened during the summer. The windows are made to take out so the house may be left as open as possible during the summer. Frames of one-inch wire netting are desirable to protect the windows on the inside and to be used during the summer while the window frames are removed. With the two trap-doors at either corner of the house no other opening should be made in the house except the large door in the east end; the north, east, and west walls should be made wind-tight and the roof fitting down perfectly tight upon these three walls. This house will then be draught-proof.

It will be noticed that a board one foot wide projects over the lower canvas and the eave extends out at least twelve inches at the top, so that cold, beating rains may not soak the canvas and then freeze, thus retarding the ventilation. The wide eave not only protects the canvas front, but, as it extends all around the house, it also protects the walls and keeps the ground immediately around the house from becoming so thoroughly water-soaked during wet weather. Carbon-dioxide gas, the principal ingredient of the expired breath of an animal, is heavier than air, and damp air, it is also known, sinks to the floor, and thus the reason for the canvas below the window and near the floor. Warm air rises and the house becomes quite warm during the sunshiny days even in winter if there is not a way of ventilating the upper portion of the house, and so the reason for the canvas above. No system of trap-door ventilator or draughts has been found practical in poultry-house ventilation. They either do not ventilate at all or cause draughts. The canvas permits a constant diffusion of air without draughts. With the canvas frame down in front of the fowls at night the air must pass through two sets of canvas. If the roof fits down tight and there are no cracks admitting air about the walls of the house this combination of glass and canvas front will make



Interior Elevation of House Built on the Plan Described by Mr. Tormohlen.

as cheap, convenient, attractive, and serviceable a house as can be built. — By courtesy of the *Successful Poultry Journal*.

As regards the different rearing periods, the half-crown chicken raised in the spring has numerous natural advantages that are more or less wanting in the case of the autumn-hatched bird; nevertheless, if the latter makes a favourable start before the severe weather sets in, it is easier to keep it growing (even if the rate of progress be slow) than it is to commence rearing the 3s. 6d. bird in the depth of winter. When due allowance is made for the probable increased cost of feeding and the seasonable losses and general drawbacks, it will usually be found that, although the individual profit on the 3s. 6d. bird may perhaps approximate to double that on the half-crown chicken, yet that on the latter will be greater in the aggregate. It must be further noted that the 3s. 6d. period is only of short duration, so that although the autumn-hatched half-crown bird comes in on a rising market, the intended 3s. 6d. chicken that suffers any check must risk a falling one.

As a matter of fact, the rearer with serious commercial intentions rears at all seasons, for all periods of demand, and comparisons are not always reliable or of general application, yet, making due allowance for exceptions, personal experience and observation tend to the conclusion that an all-the-year-round rearer does not make any very considerable proportion of his annual average profit out of the birds he succeeds in selling at the highest prices, and that, all things considered, the medium-priced chicken is a more remunerative production in the long run.

We are now more immediately concerned with the half-crown chicken, the production of which commences with the current month. It is, of course, hatched at an unnatural time of the year for incubation, and reared in face of steadily increasing adverse conditions for regularity of growth and development (and sometimes mere existence); but demand and competition compel us to do much that is artificial in our methods of production. Having under domestication evolved hens that will produce eggs at an unseasonable period, the skill of the breeder is involved in the due fertilisation of such eggs for his purpose; and mere fertility is not sufficient, it must be adequate to the occasion, and eggs for October incubation must necessarily contain vigorous germs and be capable of producing sturdy chicks possessed of hardiness and constitutional soundness. Not only must the ancestry be suitable, but the immediate parents must be in fit breeding condition. For the present purpose the most reliable hens are those which reared chickens in the early summer, and have, subsequently, moulted and recovered condition; such will have benefited by a long rest from egg-production, and, other factors being equal, should be fit for mating with a male bird of last year's spring hatching, who has been sufficiently penned apart from the hens, and is also in good breeding condition.

It is by the neglect of this separate and suitable autumn mating that so many otherwise practical breeders ignorantly or carelessly increase the difficulties of rearing in the fall of the year, and the attempt to continue production by the use of stock whose vitality is impaired by lengthened, and often permanent, mating has given rise to unreasonable prejudices regarding autumn-hatched chickens, whose delicateness is assumed as essential.

With the hatching of the sturdy prospective half-

crown chicken the uphill fight of rearing commences, but the adoption of a method of feeding best calculated to encourage steady growth and development is to win half the battle in advance. The food must be suitable for the production of the desired result, at a cost commensurate with the final value; but irrespective of comparative prices, the best food in the long run is the cheapest for such production. Inferior foodstuffs merely lengthen the period, without finally producing an equal condition. As at all seasons, soft food is necessarily the most suitable for the purpose of table production, with Sussex ground oats as the chief ingredient; but the partial use of the dry-feeding method is often helpful when the weather is at all unpropitious, chiefly as an incentive to activity when the birds are sheltering and are thus better employed than running continually on wet grass.

The aim is now, as always, not only to hatch but also to rear to a suitable maturity the highest possible percentage, because it is in the aggregate that the profit mainly consists in comparison with such chickens as are actually reared for the higher prices; and a more than reasonable rate of mortality necessarily seriously affects the pro rata cost of the survivors. Under the management of experience, however, the half-crown chicken—whether of spring or autumn hatching—is, at any rate, sufficiently remunerative to encourage production with a more reasonable expectation of success than is usually attained in preparation for the 3s. 6d. period.

A GOOSE WAR.

ANNOUNCEMENT has been made that the German authorities have suspended the importation of live geese from Russia, on the ground that there is a considerable amount of disease prevalent in the frontier districts of that country. Coming, as this prohibition does, immediately prior to the period when imports of live geese increase rapidly, the question is serious alike to breeders in Russia, who will have large quantities of birds thrown on their hands, to German goose fatteners, as they will be unable to fill up their pens, for the home production is totally insufficient to meet their requirements, and to housewives in Germany, who will find the already high price of what is an important article of food advance still further, and probably be prohibitive. Russians state that there is no justification for this regulation, that it is a trade move in the interests of German dealers to force down prices, and as a measure of fiscal protection to German breeders.

Germany imports annually about eight millions of live geese, of which seven-eighths come from Russia, where these birds are bred in vast numbers throughout the western and south-western governments. They are bought from the raisers by travelling dealers, who drive them in huge flocks to the frontier stations, where they are entrained for despatch to Berlin and other cities. The cars used for this purpose are built in four decks, each car holding about 1,200 birds. Special trains are run in the season, consisting of a dozen to thirty-five cars, in accordance with the supply. As many as 50,000 geese have been known to arrive at Magerviehhof Market, Berlin, on a single day.

OCTOBER NOTES FOR AMATEURS.

PULLETS that begin to lay during this month, and especially towards the latter end, are the most likely to continue laying throughout the winter. It does not necessarily follow that birds cannot commence earlier and still continue right up till next summer, but winter laying entails a considerable strain, and when energy is expended before the real cold weather comes there will be less in reserve to withstand the sudden onslaught of Arctic conditions. And as a general rule we do not experience much cold weather before November. Last year the fowls were not severely tried after Christmas, and when the cold weather is delayed in that way the birds have a good chance to commence laying, though they are more likely to be affected by the change when it comes. At any rate, energy and vigour are the things we require in a winter-layer, and for that reason a well-matured pullet is to be preferred to a bird that commences laying when she is a little more than five months old.

Therefore, if a bird is well matured and in good condition one will be quite justified in using stimulants to induce egg-production at the present time, though it would not be advisable to treat undeveloped pullets in the same way. There are various degrees of stimulation. In some cases warm, soft food and a small supply of meat every day are quite sufficient to start birds laying, and it is best to begin in this way. Should the birds not respond in the course of two or three weeks a little liquid ovary tonic or poultry powder may have the desired effect, and if that fails there must be something radically wrong with the management, and the probability is that the birds are having too much food and not enough exercise.

The question of condition for laying is an important one just now. Because a hen may be too fat to lay, it does not necessarily follow that she should be poor. But there is a happy medium, erring, however, on the side of generosity, and to attain that happy medium you must see that the birds have plenty to eat and plenty of exercise. Food without exercise will merely make them fat and unfit, and exercise without food will not produce eggs. Then, again, the food must be good, and it must be given judiciously. It is no use giving a hearty meal of warm soft stuff early in the morning. Its effect will soon pass, but if half a meal of soft stuff is given, followed by the other portion of hard corn scattered among the litter, the effect will be lasting and productive.

It is well to remember also the value of meat as an egg-producer, and with regard to the various ingredients of the daily food there is nothing better in the way of soft stuff than scalded biscuit meal dried off with sharps, pea-meal, and maize-meal. Wheat, unfortunately, is too dear for poultry just at present, but a good selection can be made from plump white oats, dari, white peas, and maize. The latter is essentially a winter grain, being heating and fattening, and for hens that are running in comparative liberty it may be given in generous quantities, though fowls in small runs do not need so much, and should not have more than one part maize with three parts of other grain, such as oats and dari.

But we must also consider the older stock, and this year, I am afraid, owing to the long spell of warm weather, there will be no late-moulting

hens. I have seen many that are through the moult and laying again, but there are others only beginning, and the latter will have a hard time if cold weather catches them before they have assumed the new plumage. In such a case they must be kept under cover, and be well fed on food of a heating character. The unfortunate part of it is that these late-moulting birds will barely be ready to lay again this year, though a good deal can be done to hurry them along by housing them comfortably and using stimulating food.

If any work in connection with the houses, fences, and runs has been neglected, it should be completed at once. The roofs in particular need attention before bad weather sets in, and leaks can easily and cheaply be stopped by putting on tarred felt all over the roof. Clean out all scratching-sheds, and bring in a fresh supply of litter whilst there is plenty to be had.

FOR JUDGING UTILITY POULTRY.

SEVERAL readers (says the *New Zealand Poultry Journal*) have asked for the standard for judging utility poultry. It originated from the Department of Agriculture. It was drafted by Mr. J. Rose, of Burnham, to whom credit is due. He is an old fancier, and, during the last five years, has shown himself a practical utility poultry-breeder. He was subsequently assisted by Mr. F. Brown, who suggested valuable alterations. The following is the scale that has been approved by shows having utility classes:

	Points.
Eye—Large, prominent, and bright ...	8
Face—Fine, clean, free from wrinkles and feathers ...	5
Comb—Single comb breeds, thin, texture fine, 5 points. Rose-comb breeds, neatly set, texture fine ...	5
Neck—Rather long, thin at head ...	5
Legs and Shank—Medium to short, with fine bone inclined to be flat ...	6
Keel—Short ...	5
Abdomen—Deep, broad, full, and soft; texture fine ...	10
Feather—Tight and dense, showing ample fluff	6
Colour—English Poultry Club's Standard, including beak, eye, face, lobe, legs and plumage ...	15
Carriage and Shape—Alert, body inclined oblong, full at crop, tapering from thighs to head, forming wedge-like appearance	15
Size—Medium, or 1lb. less than English Poultry Club's Standard weight clauses. In case of Leghorns, pullets 4½lb., hens 5lb., cockerels 5lb., cocks 6lb. ...	10
Condition ...	10
A perfect bird to count ...	100

Defects—Same as English Poultry Club's Standard. Faking, disqualification.

Table Poultry Standard.—Size and quality, 25 points; youth, quantity and quality of breast meat, 30 points; straightness of keel, fineness of bone, absence of offal and surface fat, 25 points; general marketable appearance, colour of skin, &c., 20 points.

FANCY POULTRY-KEEPING ON A FARM.

By WILFRID H. G. EWART.

SELDOM associated with general farming operations is this "Fancy" branch of the poultry industry. Usually considered by the farmer a more or less remote speciality, it carries no appeal to him, and is, in fact, frequently used as a foil to the expert's well-meant efforts. Is it not usual to be informed by a farmer who offers five shillings for a pure-bred stock cockerel that he requires no "Fancy stuff"? Yes, the good man actually fears that a prize-winner will be palmed off upon him at the price of five shillings. So considerable is his faith in human nature.

Luckily, however, there is more than one kind of agriculturist; and just as many people have recently arrived at the possibilities of egg- and table-poultry production in connection with general farming, so others have adopted the Fancy side and found it profitable. Being familiar with the Fancy, one could name quite a large number of poultry exhibitors who are first and foremost general farmers. These people continue among us year after year, climbing upward, increasing their stock and their advertisement outlay so that we may venture to estimate and conclude their prosperity. They would not surely adopt a progressive policy unless circumstances warranted. We may take it, then, that their business is a remunerative one.

The writer, with the advantage of immediate practical experience, also inclines to adopt this conclusion. Taking the conditions of general farming and balancing against them the demands of a high-class poultry stock, we may accept the fact that there is a good deal of profit in the latter. Let us consider some actual features of the case.

First, we have the enormous advantages of free range. That is vastly important to the exhibition poultry-farmer, since on, say, a three or four-hundred acre holding he is offered endless scope for extension and development; his young stock and his second-raters greatly benefit. In fact, he has the area of the ordinary exhibition poultry farm (every square inch of which is rented) over and over again. Thus, the only limit to his development is fixed by the amount of capital at his disposal. His birds may roam far and wide, while upon the property should be found many ideal situations for the various branches of his work. The finest sites for chicken-rearing, the best ranges upon which breeding-pens might thrive, are to be found nine times out of ten on the ordinary farm.

And there is another advantageous aspect. The outbuildings, the sheds and storehouses, and disused pigstyes, frequently present opportunities of adaptation which the poultry-keeper is glad to accept. Often they can quite easily be turned into pens and boxes which are eminently suitable for sheltering exhibition specimens. Of course, it is not suggested that all old and filthy places should be placed to the service of the poultry, for the business man knows that make-shifts are not always profitable. Incidentally, therefore, it seems much better to build a grand new up-to-date exhibition house, clean, substantial, and

well ventilated, than to try and adapt some ancient, disreputable place. But for the fancier's lesser purposes they can usually be turned to good account—i.e., the disused section of a barn may be placed at the disposal of a flock of promising cockerels whom it is considered desirable to shade.

Upon every farmstead is to be found one or more orchards, and these, of course, make grand rearing-grounds. Just one thing, however—they should be rested during the summer months after young birds have been removed and before the more forward chickens are placed on the cut grass to enjoy the benefits of shade. Even a well-planted orchard quickly becomes foul, and then it is of no use at all for rearing exhibition stock. The great value of fruit-planted meadows is nowadays largely appreciated because it is known how entirely fruit benefits poultry and vice versa. So invariably on the establishments where we find exhibition poultry an important feature, there also we find fruit and plenty of shade.

Not that it is always necessary to go out of one's way to provide this essential commodity. Spinneys, woods, and plantations are ideal spots for white and buff birds, which are not, as a rule, inclined to wander far from home. Many such suitable places abound on the land. The one great danger to running good stock in this way arises from the neighbourhood of foxes, and, of course, not infrequently Reynard renders such a scheme of poultry-keeping impossible.

Advantages to be secured in the matter of cheap grain and meal and of the many economies which are happily incidental to every branch of farm poultry-keeping need not be particularly mentioned. Enough has been said to prove a case for the Fancy side, in addition to which, however, it is necessary to point out some grave disadvantages. Yes, when the practical aspect of the matter is encountered these difficulties assume serious proportions. Chiefly in summer and through the autumn months problems of the disposition and sub-division of young stock confront one. As everyone knows, to achieve the maximum growth in a chicken, it must be run in a small flock, not bullied, well fed, and in no way interfered with. Upon the model exhibition poultry-farm the chickens are divided into countless small flocks—cockerels apart from pullets, scrupulously graded according to age, etc.—the runs being bounded by wire-netting. On a farm that is undesirable—nay (in a general sense), impossible. Farmers will not go to that length, for, besides entailing time and trouble, it interferes with stock.

To a similar extent, it is found immensely difficult to apportion the birds on different parts of the establishment. A move has to be made—for moves are often necessary—and what happens? Next day the flock retraces its steps with the utmost precision and all promptitude; next night you find it roosting among the trees or upon the ground round its old quarters. Only the greatest tact, pains, and perspicacity secure the desired result, and how many farmers are prepared to go to those lengths? So it becomes a question—in considering this subject of Fancy poultry-keeping on a farm—either of erecting runs bounded by wire-netting, an unpopular plan, or of conducting operations as effectually as possible under the circumstances. Equally that applies to chicken-rearing, breeding-stock, and the ordinary

flocks of "utility" birds—all require division and sub-division.

Nevertheless, the advantages upon which stress has already been laid still hold good, and they are of large importance. Cheap food, limitless range, natural shade, adaptable buildings, and an easy working with the general farming scheme—we must bear these in mind. And, moreover, is there not evidence to demonstrate the prosperity of this class of work? Certainly there is, and so it may be suggested with considerable confidence that the businesslike farmer should adopt the Fancy, as well as the utility, side of poultry-keeping.

AMONG THE BIRDS IN OCTOBER.

By J. W. HURST.

THE LAYING STOCK.

The laying stock, consisting of pullets and hens reserved from the older birds for another season's work, need not necessarily be run separately any longer provided the advantages of keeping them together are greater than the disadvantages. The question at this time is mainly one of space and convenience of arrangement, and if the combination would not make the flock too large it is sometimes advisable to put the hens that are over their moult with the birds of the year. By this arrangement some of the ground may be given a rest and got into condition for future changes, and as all are required for egg-production the present treatment involves no difference as regards feeding, &c. It is, however, necessary in such circumstances to adopt some method of identification—preferably by the use of securely fastening leg bands to prevent future confusion when selecting for age and prolificness. At such a time, which marks the commencement or recommencement of laying—as the case may be—advantage may very well be taken of the opportunity thus afforded to begin the keeping of egg records, if this is not already a part of the ordinary routine. Whether this is done accurately by means of trap-nests, or approximately by the exercise of observation, it is very necessary to acquire some working knowledge of the individual worth of the birds, otherwise no progress can be made in strain-making. Good records are only attainable by selection in accordance with individual performance and constitutional fitness for the perpetuation of the strain, but the birds must not be pushed to the point of over-production by undue use of forcing or stimulating feeding stuffs.

THE BREEDING STOCK.

Birds intended for breeding purposes should be kept in good hard condition until required for mating in view of the requirements of early production. They will be maintained in the best condition if allowed as considerable a grass range as possible, and penned in sufficient time to allow them to become settled in their breeding quarters before their eggs will be wanted for setting. In feeding it must be remembered that they need a suitable supply of green food even when run on grass at this season. Whether running free or

penned they must be well housed, as any close confinement or approach to artificial conditions will be prejudicial to the production of chickens with sufficient stamina for early rearing. In feeding any attempted stimulation of egg-production must be most carefully undertaken. No spice should be used, only the ordinary sound and wholesome foods, with the sparing addition of meat.

DUCK-BREEDING.

Stock ducks of a suitable age and condition for early laying may suitably be mated this month. Swimming water should be accessible, and the size of the breeding-pen should not be too large. A limited number of fully fertile eggs are better worth having than a larger quantity giving a small hatching and rearing percentage. If they are of an early laying strain it is better to use the Aylesburys, otherwise for this production an Aylesbury drake may be run with Indian Runner ducks, or the pure-bred drake with crossbred Indian Runner-Aylesbury ducks. The result of such crossing is some reduction of size, but that is of comparative unimportance provided the birds are produced sufficiently early, and Aylesbury ducks are not by any means always reliable layers early enough in the most desirable season. The dietary must include meat in moderate quantity, nitrogenous food being essential if a good supply of fertile eggs is wanted, but a forcing or fattening diet must be avoided during the breeding season. In severe winter weather, barley-meal, middlings, and lean meat will be a suitable mixture to feed warm twice a day; but in more open weather oatmeal, middlings, and meat will be found more desirable, with whole oats or wheat for grain feeding.

TURKEY POULTS.

This is a good period at which to make any necessary selection of birds to be kept for stock purposes. Those separated for Christmas fattening should continue to run over a good range, until the time arrives for fattening, which will be in the course of next month, about four weeks before the killing date. They should now possess a good frame, and if bright in plumage, red in wattles, and active in habit, they may be assumed to be in good health and condition. Condition must now be maintained, as any set-back in the autumn will be most inimical to good results at the required time. It is sufficiently difficult to maintain progress in face of the normal seasonable tendencies, without attempting to make up lost ground. A good feed just before dusk is a great help now. The roosting-house should be kept well lime-washed, and the floor cleaned and disinfected daily. Plenty of perch room must be allowed, and ample ventilation—but no draught. If the walls are wooden it would be as well to examine them now, in view of the very drying summer and the undesirability of openings in the woodwork.

American Poultry Crop.

The estimates based on the last poultry census in the United States are that eggs and poultry produce were valued at \$850,000,000 (£170,000,000), second only to Indian corn. Although the "billion" mark is yet an object to be striven for, that point is in view.

HASTENING THE BACKWARD PULLETS.

MUCH has been said as to the disadvantage of pullets laying when they are too young, chiefly in that they pass through the adult moult in their first year. This is perfectly true, and is so generally understood that steps are taken to guard against it. Devoting more attention to the time of year when the chickens are hatched, and retarding any pullets that show exceptional precocity, are among the most important points. Frequently some of the usual methods of retarding the maturity of pullets are carried too far, with the result that the cold weather is upon them, and the birds receive a check which is much more drastic than would be the case had nature been allowed to mature without interference by the owner. Very little, however, is said in the opposite direction—namely, that of “hurrying up” the backward pullets. It is no exaggeration to say that for every chicken that is too forward there are at least a dozen that are too backward. The ideal to aim at is to have the pullets ready to lay during the early days of November, and when this can be accomplished without having either to retard or to hasten matters, the best results may confidently be looked for.

To obtain this ideal care is needed. In the first case the selection of the parent stock must be carefully performed, both as to their respective ages and suitability in the characteristics that go to the breeding of future layers. The time of year to hatch is a further and an extremely important contributory item towards the same end. Of course, it is well known that there is a tremendous amount of difference in the speed at which pullets develop, not only in the breeds themselves, but also in the strain. For instance, the Ancona, which is admitted to be one of, if not the most, precocious of all breeds, will sometimes make its maiden effort to lay at about sixteen weeks from the day of hatching, while we have known pullets of the same breed that were double this age before commencing. Again, we have the Langshan, which is not famous as a rapid grower; yet we have known pullets lay before the difference in sex was apparent. We thus see that there is great diversity in the nature of fowls in this direction.

It is, however, rather in the way of hastening on those that are backward with which we are concerned. By October pullets that were hatched at the right time of the year should be approaching their profitable stage, and when they fail to show the signs of laying, which are unmistakable, it is generally that the feeding is to blame. Either they are not getting sufficient, or the food is not of the right kind. They may be provided with sufficient food to keep them in perfect health. The quantity may be all right, but it may not contain the right elements for ripening the ova and bringing them to maturity. It is to be remembered that not only is growth to be maintained, and waste by heat to be repaired, but, in addition, the formation of the eggs is necessary. In this connection there is probably nothing so good as small quantities of animal food given regularly and systematically, since this is both an egg-forming and a growth-promoting diet. Green bone is also of great service at this

particular period in their life. It is neither flesh-forming nor fattening, yet it contains matter helpful to encourage laying. If these additions be regularly supplied to the pullets, which have had the estimable privilege of the run of the stubbles during the past month, nothing further will be required to bring them “up to the scratch” by the first or second week in November. On the majority of farms poultry have enjoyed to the utmost the advantage of being placed out on the stubbles. The harvest throughout the entire country, owing to the magnificent summer we have had, has been remarkably early, and thus growing pullets have reaped the benefit at a time so essential for future health and fitness.

It is not, however, every poultry-keeper who has the opportunity of dealing with his fowls in this manner, and it must not be imagined that it is only the farmer who can bring his fowls on to lay at a particular time of the year, since it is quite possible for the small poultry-keeper, with neither arable nor pasture land at his command, to obtain equally good results as the farmer. To do so, however, requires more judicious methods of management, and especially does this apply to feeding. More attention must be given to natural foods, since by being kept in confined runs the fowls are deprived of much which, under different conditions, they would forage for. Green food must be plentifully provided, either cooked or raw; it does not matter to any great extent how it is given, so long as they get it. Their early morning meal should consist principally of barley meal and middlings, with about half a part of pea meal. Oats and wheat should be liberally supplied at their evening feed. This diet, together with animal food and vegetables, as previously mentioned, contains all the variety and nutriment necessary to ensure a good yield of winter eggs.

AN ECHO OF THE LABOUR TROUBLES.

OUR Border correspondent, writing at an early hour this morning, gives particulars of an extraordinary extension of the strike mania at present running riot. It would appear from our correspondent's source of information, which may justly be regarded as reliable, that a dock strike has been announced by practically all the Hen Unions in the Borders, the masters having failed to satisfy the almost universal demand for softer nests and a daily bran mash. The secretary of the Black Minorca Feathered Union, in the course of an interview, stated that with the exception of a small number of Brahmas whose attitude was one of brooding, every egg dropper to a hen would after Saturday morning at 10 o'clock refuse to yoke, and successful picketing arrangements had been made with the view of peacefully persuading the ducks and geese to join the strikers. The attitude of the cocks and bubbly jocks is one of strict neutrality. Meanwhile a state of utmost consternation prevails, and the almost continual remark of the grocers in Kelso is “No eggs.”—*Edinburgh Evening Dispatch*.

NOTES FROM ABROAD.

Poultry in West Africa.

A correspondent of the *African World* says that it is the intention of the Government of British Nigeria to make an attempt to improve the breed of the native fowls in Southern Nigeria by the introduction of English birds, and the Director of Agriculture is arranging for the purchase of a large number of cockerels, which will be disposed of to the public at cost price, a few being retained by the Agricultural Department to be kept under control so that the results of the experiment, under the most advantageous conditions, may be ascertained and recorded.

Out of Evil Good May Come.

The high cost of living in the vicinity of New Orleans is having a remarkable effect, compelling

people to know what to do with. This increased interest in all kinds of the feathered tribe has led to the starting of numerous poultry shows in the principal cities. All of these have proved financial successes. Valuable prizes are given by them to the exhibitors, who are thus encouraged to extend their business as much as possible and raise the quality of their pets.

A Human Incubator.

Jacob B. Seitz, a prominent resident of Lockland, which is one of Cincinnati's leading suburbs, has just hatched out 42 chickens. He did it all by himself, spent all his time on the nest, and says that being a human incubator isn't so hard a job as most people make it out to be.

His four Plymouth Rock hens were stolen from their nests about three days before the chicks were to have been hatched. He then rushed the eggs to his cellar, made up a sort of bed in which he lay, with the eggs all about him, and,



A VIEW ON A BELGIAN POULTRY FARM.

[Copyright.]

people to pay attention to production on their own account. According to the British Consul-General at the port named the keeping of poultry in sufficient numbers to reduce the butcher's bill is found to be a step in the right direction, and nearly every back-yard in the town is turned into a poultry-farm. The music of turkeys, geese, ducks, and fowls is heard night and day. This new family industry has been a blow to the cold storage plants. They have had to get rid of their stale eggs at any price, as the family trade is closed to them now that everyone has more eggs than they

with the aid of a heavy blanket, succeeded in hatching out 42 chicks from 60 eggs. For eighteen days Mr. Seitz had watched over his three hens with all the care of a mother, and kept telling his neighbours that he was going to have at least fifty-five dandy chickens when these hens came off their nests.

But a few days ago he went to his hen-house and found that his Plymouth Rocks had been stolen. He grabbed a basket, wrapped the warm eggs into it, and ran home. Then he and his wife went into executive session and discussed what they

should do to save them. The result was that he made a bed in the cellar into which his wife tucked him with a blanket. All the eggs were carefully placed about his body. In this bed-nest he lay for three days, having his meals brought to him and being supplied with his pipe, tobacco and matches every day by Mrs. Seitz.

Now he has the chickens, and his neighbours are telling wonderful stories as to his mental acumen in testing out his ability as a human incubator. —(The *Denver Republican*), U.S.A.

Turkeys from Australia.

It would appear that next Christmas we shall have Australian turkeys on our markets. A Melbourne (Victoria) contemporary says:

At the Government cool stores large consignments of turkeys are coming to hand for export. The consignments this year are rather late, but the birds are in excellent condition, and when treated and packed by Mr. Hart, the Government poultry expert, and his assistants, look very prime and enticing. Most of the birds now being sent are almost pure American bronze, being of good weight, and showing a plentiful supply of white breast meat.

Points from New Zealand.

Mr. Hopkins, of Rangiora, has been visited by the Editor of the *New Zealand Poultry Journal*, and among other points recorded are the following:

I rear all my young stock from two months old, both pullets and cockerels, out of doors. They perch in fir trees until the autumn, when the pullets are taken up and housed.

All my fowls are given at least half an ounce of fresh meat every day. Of course if it is impossible to get fresh meat, blood meal or meat meal may be substituted, but do not expect the fowls to lay as well, also they will take longer to get through the moult.

Unless the fowls are running on limestone soil, it is advisable to mix the mash with lime water for the growing stock; they need it to make bone.

I save ten shillings per week in shell grit in the spring by mixing lime water in the mash for the laying hens.

An Antipodean Blunder.

Speaking of the Dublin Poultry Conference the *New Zealand Poultry Journal* says that Ireland is second to Denmark, whereas the production of Irish eggs and poultry is in value nearly double that of Denmark.

Russian Geese.

The importation of live geese from Russia has been suspended by the German authorities, who have declared the presence of infectious diseases among geese in Russia. Such prohibition is very serious, as the time of greatest importation is approaching. Upwards of seven millions of live geese are annually imported into Germany from Russia, and any interference with that trade will mean a big curtailment in supplies, and a much greater enhancement of prices than has marked the last few years, considerable though that has been. A few years ago a similar enactment nearly caused a customs tariff war between the two countries. One of the St. Petersburg journals suggests that the disease is discovered by German buyers to force down prices, and when that has been accomplished it disappears.

The Burnley (Victoria) Laying Competition.

"Hotspur," the poultry correspondent of the *Melbourne Leader*, has been criticising strongly the location of this competition, and gave currency to a rumour as to an outbreak of disease. The State Minister of Agriculture replied in a letter to the *Leader*, in which he said:

I went down to Burnley on Saturday, and compared notes; that is, your statement with regard to the actual state of things as they exist. The result, I am sorry to say, only confirms me in the opinion I have formed of anything written under the heading of "Hotspur," that in order to digest it it would have to be taken with a strong admixture of salt. Statements in the article referred to are utterly at variance with the facts; so much so, that before you visit the yards again you will require to have my special order to do so.

It is questionable, however, whether anyone can be denied access to a publicly supported competition for criticising it, even though statements made were untrue.

Imports into Western Canada.

The statement is made that during 1910 the provinces of Canada west of Winnipeg imported from the east or from across the American border eggs to the value of £300,000 and poultry to £100,000 more—£400,000 in all. That fact explains why Canadian shipments to England have practically ceased.

Laying in Third Year.

The laying competitions in New South Wales have had this last year a novelty—namely, third-year laying, the result of which is "that the Black Orpington and Langshan quite overshadow the popular White Leghorn," which were superior in the first and second years. Ten pens were entered, the Orpingtons standing first and second with 823 and 774 eggs respectively, which is a good record for three-year-olds, averaging 137.16 and 129.0 eggs in the twelve months, White Leghorns coming third with 744 eggs (124). The eggs produced in the three years by the three pens were as follows:

	Total No.	Average.	Values.
1. Black Orpingtons	3,047	507.83	£16 9s. 3d.
2. " "	3,020	503.33	16 3s. 2d.
3. White Leghorns	3,063	510.5	16 os. od.

These are remarkable results. A further experiment was with respect to the "dry mash" system, but the result is unfavourable, as the cost was increased by 1s. 8½d. per hen per annum.

Utility Prizes in South Australia.

The Minister of Agriculture (Hon. J. P. Wilson) has granted £35 for special prizes to be competed for at the Royal Agricultural and Horticultural Society's Show in September, in order to encourage the production among blockers, small holders, and poultry-breeders generally of good specimens of the modern utility breeds. The scheme is intended rather to stimulate the novice than to benefit the experienced breeder, and no exhibitor or exhibit that has won a prize at any previous show will be allowed to compete. There will be prizes for White Leghorns, Wyandottes, ducks, boys' and girls' classes (utility light breeds), breeders' pens (five), light section, boys' or girls' breeders' pens, chickens, ducklings, table-poultry, eggs, feathers, dish of mash, and also group prizes.

THE BUFF PLYMOUTH ROCK.

By A. A. FLEMING,

Hon. Sec. of the Buff Plymouth Rock Club.

AMONG the many breeds of poultry which we have at the present day there are few to equal the Buff Plymouth Rock, either for exhibition or utility purposes. These birds have not been taken up as much by poultry enthusiasts as their very excellent qualities have entitled them to be. They are, however, fairly popular, and although it can hardly be expected that they will ever equal the great and never-waning popularity of the Barred Rock, which seems to have a peculiar fascination entirely of its own in the Rock family, partly owing no doubt to its beautiful feather markings; still it is more than probable in the near future that the Buff Rock will take its place as one of the finest all-round breeds we have ever had.

It is a generally accepted theory that the Buff Rock was first produced and exhibited in America about 1890, so that the breed is not of mushroom growth. The origin is hard to trace, but I believe that it was obtained from Rhode Island Reds, Barred Rocks, and Buff Cochins. A few years ago it was a common occurrence to see Buff Rocks exhibited with a good deal of fluff or feather on their legs and feet, which undoubtedly emanated from the Cochin, and the birds were of a dark reddish colour, very harsh. Happily both of these faults have been eradicated, and we now have a bird free from feather on leg and a beautiful golden shade throughout.

As utility birds they cannot be beaten, and in this respect stand second to none. They are grand winter layers, and if hatched at the right time and well grown they start laying just before eggs become dear, and keep on throughout the winter. The eggs are of a rich brown colour and of a good size. In the 1909 six months' laying competition they came out an easy

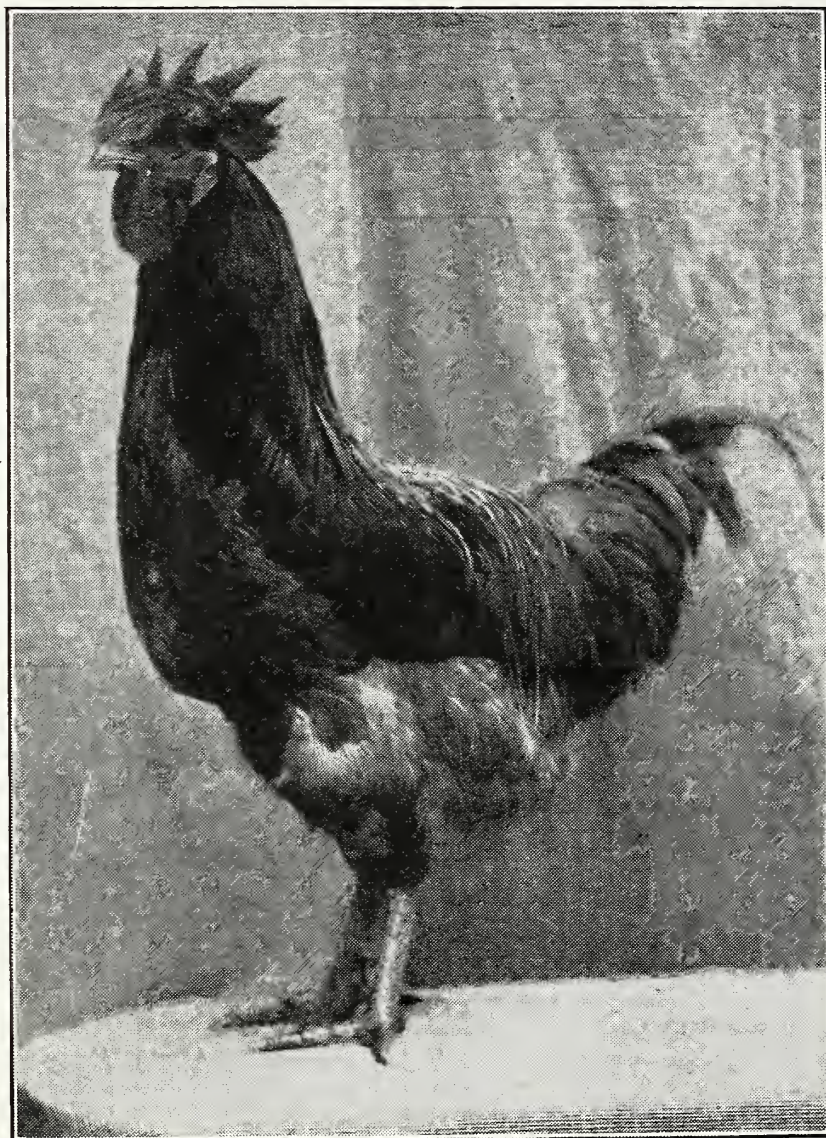
first, laying nearly 100 more eggs than the second pen, Buff Orpingtons. In fact, they may always be relied upon to give a good account of themselves whenever entered in any competition. Their egg-laying capacity is proved. The breed will thrive and lay well on the most bleak and exposed farms. This is not an idle boast, for no weather appears to upset or come amiss to them. The chickens are of a hardy nature and grow quickly. The breed stands confinement well, and is not inclined to broodiness nearly so much as the Buff Orpington.

As exhibition birds Buff Rocks present a very pleasing appearance, with their lovely golden plumage and rich orange legs and beak. Owing to their being a self-coloured breed less trouble is experienced

in producing almost perfect specimens than is the case with those that have feather markings. The desired colour is that of a golden sovereign. If it is intended to exhibit, the birds should be shaded from the sun and rain after they are a few months old. They can, of course, be liberated every morning for a short time, and they can likewise again be liberated in the evening. If this is not done the birds will not keep fit or grow as they ought to, while they will become yellow in the face. I have seen birds win without having been washed or got up in the slightest degree, but this is the exception rather than the rule.

Some fanciers mate up two pens for breed-

ing — that is, a cockerel - breeding pen and a pullet - breeding pen; but this is quite unnecessary, it being possible to breed good birds of both sexes from one pen. The cock or cockerel which is to head the pen should be strong, fit, vigorous, and well-developed; he should have bright red eyes, a single comb, evenly serrated, and free from side sprigs. The breast should be sound,



**BUFF ROCK COCKEREL (belonging to Messrs. G. and E. Atherton).
Birmingham, 2nd; Crystal Palace, 4th; Dairy, 3rd; Aughton, 3rd.**

free from lacing or mealiness, tail neat and compact with no white feathers. The colour should be golden throughout, and should also be free from mealiness, lacing, or harshness of colour. The hens or pullets should be shapely, of a good sound colour, with large bodies, neat combs, and bright yellow legs. In fact, practically everything which applies to the male bird applies equally to the female bird. Of course, the great idea in mating is to so arrange the pens that where the male fails the females excel, and *vice versa*.

To ensure the best results it is best to mate up cocks with pullets and cockerels with hens. Avoid mealiness; mealiness means a feather that presents a blotchy appearance, as though a lot of meal had been worked into the feather. White in a buff bird is a bad fault, and care should be taken in mating to eliminate this, especially in females. Old birds often throw a little white as they get older, but this does not matter if they were sound as youngsters. A little black in the tail of either sex will not hurt nearly as much as white. In mating up remember that it is better to mate up pure-tailed females to a male whose tail is a shade darker. Pure-tailed birds are apt to throw some white. Do not breed from birds whose colour is of a harsh or brickly nature, and the less lacing the birds have the better. Lacing is when the end of the feather finishes off with a stripe or edging of a different shade of colour.



Scarce New-Laid Eggs.

Even in Canada complaints are met with as to the difficulty of obtaining first-quality eggs, for which there is an ever-increasing demand. Mr. A. G. Gilbert tells in the *Canadian Poultry Review* of experiences in Ottawa which might be duplicated the world over.

Transylvanian Naked Necks.

A club has been formed in Belgium for this breed of fowl, the treasurer of which, to whom communications should be addressed, is M. Jos. Heinen, rue Naimette, 16, Liège.

BUFF ROCK PULLET (belonging to Messrs. G. and E. Atherton).
Dairy, 1st; Galgate, 1st; Aughton, 1st; Birmingham, 2nd;
Crystal Palace, 2nd; Manchester, 2nd.

BERWICK EGGS.

A GLIMPSE INTO THE EIGHTEENTH CENTURY

THE recent case in which it was proved that eggs sold as Irish were Continental, recalls the egg trade of Berwick more than a century ago. Doubtless the eggs bought and sold in Berwick to-day are like the eggs that can be had in Newcastle, at Hexham, Morpeth, and Alnwick; that is, some of them are country eggs (home produce) and others are box eggs from Germany, Austria, Russia, or elsewhere. Berwick did a big trade in eggs one hundred and twenty years ago. The "Good Town" did not import eggs, but it did a big transport trade in them. They were collected by egggers from every part of Tweeddale, and by them conveyed to the town in carts, or on panniers on pack horses.

These eggs were gathered in great numbers in the Vales that spread themselves out from Hawick and Selkirk. Berwick grocers profited by the trade, for the egggers bought supplies from them, to take back to their customers in the country. During the years 1791-2-3 and 4, the average number of chests of eggs shipped yearly from Berwick to London was 4,000, and on an average, the annual value of the eggs turned over in the town was estimated at £20,000. In 1798, no fewer than 5,254 chests of eggs were sent to London, and according to the season of the year the prices varied from 5d. to 1s. per dozen. It would have been interesting at this

time of day to know if any Berwick merchant was expert enough to tell which was a Hawick and which a Peebles egg.—*Newcastle Chronicle*.

Poultry Sheds.

It is strange that in countries where land is plentiful restriction of area for fowls appears to be common. An Australian exchange tells of the Redfern Poultry Farm in Victoria, where the layers are kept under cover all the time in sheds 150ft. long, divided into 10ft. compartments. These are open-fronted. The system is economical of wire-netting.

TABLE OF EXTERNAL SYMPTOMS FOR DIAGNOSIS OF POULTRY DISEASES.

IN a valuable compilation of 216 pages, entitled "Poultry Diseases and their Treatment," issued by the Maine Agriculture Experiment Station, for the benefit of residents in that State, we find the following table as to symptoms. It is stated, however, that "this table is not intended to tell the reader what the disease he finds is," but as a reference to such diseases of which the various items are symptomatic. That in itself is a great gain.

SYMPTOM.	Diseases which the symptom named may indicate.
<i>Abdomen</i> swollen	Peritonitis, Dropsy, White diarrhœa.
<i>Belching</i> of gas	Inflammation of crop.
<i>Breathing</i> abnormal (i.e.) too rapid, too slow, wheezing, whistling, snoring, or in any way different from normal . .	Diseases of the respiratory system, Arsenic poisoning, Pericarditis, Gapes, Air-sac mite.
<i>Choking</i>	Arsenic poisoning.
<i>Comb</i> , pale	Tuberculosis, Dropsy, Air-sac mite, Infectious leukæmia, White diarrhœa.
<i>Comb</i> , first pale, but later dark.	Enteritis.
<i>Comb</i> , very dark	Liver disease, Blackhead, Congestion of lungs, Pneumonia.
<i>Comb</i> , yellow	Liver diseases, Visceral gout.
<i>Comb</i> , with white, powdery scurf	White comb.
<i>Constipation</i>	Simple constipation, Indigestion, Inflammation of oviduct.
<i>Convulsions</i>	Arsenic poisoning, Copper, lead, or zinc poisoning, Epilepsy, "Harvest-bug."
<i>Cough</i>	Diseases of the respiratory system.
<i>Crop</i> , enlarged and hard	Crop bound.
<i>Crop</i> , enlarged and soft	Inflammation of crop, Enlarged crop, Gastritis
<i>Diarrhœa</i>	Diseases of the alimentary tract, Arsenic poisoning, Copper, lead, or zinc poisoning, Blackhead, Tuberculosis, Cholera, Roup, White diarrhœa.
<i>Nostrils</i> , discharge from	Diseases of the respiratory system.
<i>Emaciation</i>	Tuberculosis, Aspergillosis, Visceral gout, Mites, White diarrhœa.
<i>Eye</i> , expansion of pupil	Arsenic poisoning.
<i>Eye</i> , sticky discharge from	Catarrh, Roup.
<i>Face</i> , swollen	Roup.
<i>Droppings</i> , bright emerald green	Cholera.
<i>Fever</i> , marked	Peritonitis, Aspergillosis, Infectious leukæmia, Inflammation of oviduct.
<i>Lameness</i>	Tuberculosis, Aspergillosis, Rheumatism, Scaly leg, Bumble foot.
<i>Legs</i> , roughened, with scales raised	Scaly leg.
<i>Mouth</i> , mucous discharge from	Congestion of the lungs, Pneumonia, Gapes.
<i>Mouth</i> , white, cheesy patches in	Roup, Canker.
<i>Nausea</i> and <i>Vomiting</i> . .	Inflammation of the crop, Copper, lead, or zinc poisoning.
<i>Neck</i> bent backward . . .	Strychnine poisoning, Congestion of the brain, Wry neck.
<i>Neck</i> limp	Limberneck.
<i>Paralysis</i>	Copper, lead, or zinc poisoning, Strychnine poisoning, Apoplexy, Heat prostration.
<i>Saliva</i> , copious secretion	Arsenic poisoning.
<i>Skin</i> , puffed out in blisters	Empy-sema.
<i>Skin</i> , scaly and incrustated	Body mange, Favus.
<i>Staggering</i>	Congestion of the brain, Leg weakness.
<i>Thirst</i> , excessive	Hypertrophy of the liver, Peritonitis, Aspergillosis, Tapeworms.
<i>Tongue</i> , hard and dry . .	Pip, Diseases of the respiratory system.
<i>Tumors</i> on head	Roup, Chicken pox.
<i>Urates</i> , yellow	Cholera.
<i>Vent</i> , mass of inflamed tissue projecting from	Prolapse of oviduct.
<i>Vent</i> , skin inflamed . . .	Vent gleet.

THE MECHANISM OF THE EGG MARKET.

IN an interesting volume entitled "The Mechanism of the City" (P. S. King and Son), by Mr. E. T. Powell, comprising a series of lectures delivered at the London School of Economics dealing with the great financial interests concentrated in the City of London, we find the following illustration which applies to the egg market:

"Let us imagine a present market assembly formed of farmers who come to sell eggs and of other persons who come to buy them. Each class desires to deal only 'one way' . . . Eggs are being sold at eight for a shilling, save in one corner of the building, where eggs of precisely the same sort are sold at twelve for a shilling. How long will that state of things continue? Not for more than a few moments, since the news that eggs are cheaper in the aforesaid corner will instantly become known, and, as long as the supply continues, nobody will buy elsewhere than at this favoured spot. The variation in price will be remedied in one of two ways. The sellers of eggs at twelve for a shilling will discover that the buyers are willing to purchase at the higher price, and they will consequently decide to raise their egg quotation to three-halfpence each. That is to say, they raise their price to the figure ruling in the other parts of the market. On another supposition, the supply of these vendors at twelve for a shilling may be so ample that they are willing to go on selling at that price. If that be so, the quotation of eight to a shilling will cease to exist, since no person will be so foolish to pay three-halfpence for eggs which, elsewhere in the same building, he can purchase for a penny. That is to say, the old price of eight for a shilling will be readjusted downwards to the new quotation of twelve for a shilling. The concurrent existence of the two prices for the same commodity in the same area is impossible. If we suppose its maintenance for even a short time, we can see that traders would begin to buy eggs in one part of the market at the lower price, and to sell them in the other part at the higher price; and this is an unthinkable state of affairs.

But although it is unthinkable as permanently existing within the same area, we may, if we imagine ourselves amid the conditions which encompassed our mediæval ancestors, contemplate it as a possibility in two separate markets a few miles apart. As the facilities of communication and transport are small, if not non-existent, there may be a temporary scarcity in the one market simultaneously with the existence of superfluity in the other. Eggs at Norwich and eggs at Peterborough might even now, for a short time, command widely different prices. In the Middle Ages the difference might have lasted for months, or have been permanent, since in the first place information of its existence would travel slowly, and in the second the difficulty of transporting eggs to the better market from the worst might defeat the operation of the most important factor for readjustment—namely, the rapid distribution and interchange of the supply of the commodity between the two areas."

PUBLIC versus PRIVATE BREEDING CENTRES.

IRELAND'S CASE.

To the Editor of the ILLUSTRATED POULTRY RECORD.

DEAR SIR,—I do not think Mr. Edward Brown really intended to convey such an exaggerated impression of the impoverishment and helplessness of the Irish people as he has succeeded in doing in his article, "Public versus Private Breeding Centres," in the ILLUSTRATED POULTRY RECORD for August, last.

large number of Irish farmers have "bought out" their farms, and hence have much more capital involved in their business than an English or Scotch farmer who merely rents a holding of similar size. Anyone who has visited the mixed farming districts in the counties of Tyrone, Down, Londonderry, Louth, and many others, knows how inaccurate it would be to describe the farmers of such districts as either "terribly impoverished" or "helpless." I question very much whether better farms or better farming is to be seen anywhere in Great Britain. Ireland is a country of very diversified farming. Before me as I write is the *Irish Times* of the 2nd



A FAMILIAR SIGHT IN IRELAND.

[Copyright.]

Perhaps one test of the impoverishment of a people is the amount of Poor Relief administered. If therefore the 1891 census is taken (as nearest the period Mr. Brown refers to), the population of England and Wales at that time was 29,002,525, and of Ireland 4,704,750 — the former bearing a proportion to the latter of roughly 6 to 1. In 1890 there were, according to "Whitaker," in England and Wales 787,545 persons in receipt of Poor Relief, and in Ireland 106,866 the former number bearing a proportion to the latter of roughly 7 to 1. These comparisons require, I think, no further elucidation.

The impression conveyed to my mind on reading Mr. Brown's article was that Ireland was a country of poverty-stricken, helpless small-holders. Now there are in Ireland 427,375 holdings under fifty acres in extent. But there are also 90,808 holdings of over fifty acres. In addition it must be remembered that a

inst., and the following advertisements therein of farms for sale may be of interest:

Co. Louth, 600 acres.	Price £40,000
Co. Meath, 450 "	" £21,000
Co. Kildare, 578 "	Head rent £162 10s.
	Price £10,000
Co. Wicklow, 168 acres.	Head rent £82
	Price £1,000
Co. Roscommon, 341 acres.	Head rent £184
	Price £2,500

The fact is, holdings in Ireland vary from one to a thousand acres in extent, and include most of the variations in farming practice found in the United Kingdom. Yet there is one uniform Departmental Poultry Scheme for the whole country, and up to the present it has not been found necessary to vary it.

Not long since, at a meeting which I attended in Great Britain the Chairman stated that "they were

accustomed to look down upon Ireland, though they must admit that Ireland could beat them in the production of eggs and poultry." I could not refrain from pointing out to the meeting that, amongst other things, Irish ships, horses, linens, butter, bacon, and potatoes, could always give competitors food for thought, literally in some instances as well as metaphorically.—Yours faithfully,

PERCY A. FRANCIS.

Woodgate Cottage, Knock, Belfast, September 14, 1911.

[We submitted Mr. Francis's letter to Mr. Edward Brown, whose reply is appended.—EDITOR I.P.R.]

DEAR SIR,—My remarks commented upon by Mr. P. A. Francis, in the letter of which you favour me by sending a copy, did not refer to later years, but to twenty-three years ago, and even some time subsequent to that period. The statements made were based upon what was regarded as requisite when conditions were very different to what they now are. Whilst it may be true that in some sections of Eastern and Mid-Ulster things never assumed the form met with elsewhere, what I saw in Donegal, in some districts of South Ulster, and over almost the whole of the other provinces, save those parts of Leinster nearest to Dublin, left an impression which has never been effaced. Probably Mr. Francis did not know Ireland then. His experiences have been in happier days. The whole aspect of affairs has changed. People and places present an appearance which speaks volumes for the magnificent work which has been accomplished, in which he has had a share. No one rejoices at such a result more than does the writer. As an Englishman I could not but feel that Ireland at the time named was the great blot upon our Empire, and that it ought to be the duty of everyone to help in its removal.—Yours faithfully,

EDWARD BROWN.

Cold Storage Produce.

A Bill has recently been passed by the Californian Legislature by which vendors of butter and eggs that have been in cold storage for more than three months must state that they have been so stored and for how long. And the New York authorities limit the period of storage to six months. If the former is carried out it will hit hard the sale of these products. Consumers do not like to be told the "whole" truth. We hope it will not mean that the old stored products be shipped to Europe.

A New Definition of Cruelty.

It is stated that a Missouri judge has imposed a fine on a man who gave beer and whisky to a chicken and made it intoxicated, on the ground of cruelty to animals. The bird was an unwilling drunkard.

Show Novelties.

The Exhibition to be held at Buffalo, N.Y., next January announces several novelties, including a comprehensive cock-crowing competition, and a laying contest for the duration of the show.

GEESE & THEIR ACCOMPANIMENTS.

ROAST GOOSE.

This is by far the most popular method of cooking the bird, though there are other ways which well deserve a trial, and these constitute a very pleasing variety. When the goose has been properly prepared, stuffed according to taste, and well secured at the openings, cook it either in front of a clear hot fire or in a well-heated oven, in either case being careful to baste it freely and frequently so as to prevent the flesh becoming at all hard or dry. When done enough, remove the fastenings and serve the bird on a very hot dish, accompanied by brown gravy and well-made apple sauce.

SAVOURY PUDDING.

Soak a pound of stale bread in as much boiling milk as it will absorb, and when quite soft beat it with a strong fork until perfectly smooth, then add six ounces of finely-shredded beef suet, four large onions boiled and finely chopped, a liberal seasoning of salt, pepper, and mixed powdered herbs, a tablespoonful of oatmeal, and three or four well-beaten fresh eggs; mix thoroughly and spread out the preparation in a smooth layer, about three-quarters of an inch in thickness, in a well-greased baking tin, then cook for about an hour in a moderately hot oven. When done enough drain away any fat there may be, cut up the pudding into small, neat squares, and serve it either neatly arranged on the dish with the goose or on a separate dish tastefully garnished with parsley. With the majority of people this forms a very favourite accompaniment to roast goose, and it certainly helps to make the meat "go further," which is a very decided advantage, as a goose is not a particularly fleshy bird.

BRAISED GOOSE.

Prepare and truss the bird in the usual way, then put it into a stew-pan, the bottom of which has been covered with slices of fat bacon; add a bunch of savoury herbs, a good supply of roughly-chopped flavouring vegetables, a seasoning of salt and pepper, and sufficient stock, or water, to just cover the whole. Fix on a very tightly fitting lid and stew as gently as possible from three to four hours according to the size and age of the bird. Have ready cooked at the same time some carrots and turnips cut in small neat shapes, some French beans, green peas, tiny button onions, &c.; then mix all these together in a little rich creamy brown sauce, bring to the boil, and pour the whole over the goose just immediately before serving.

BOILED GOOSE.

Those who are rather afraid of the richness of a roast or braised goose will doubtless appreciate the following recipe, which is, I believe, of Welsh origin. Pick and singe the bird carefully, and truss it very firmly, then put it in a saucepan and cover it with hot water, or stock; bring to the boil, skim well, and cook gently and evenly until done enough. When ready, take up the bird, remove all fastenings, and cut it up into small joints and slices; arrange these neatly on a hot dish upon which has been placed in

readiness a bed of well mashed and seasoned potatoes, and pour over the whole some good white onion sauce. Garnish the edge of the dish with sprigs of parsley and small, even-sized tomatoes, which have been baked or fried whole, and send to table as hot as possible.

GOOSE IN JELLY.

Prepare the bird in the usual way, and either boil or braise it, as already directed, until quite tender, then take it up, carefully remove the bones, and cut the flesh into small neat pieces. Return the bones to the stewpan and boil a little longer; then strain through a fine sieve or a bit of muslin into a small saucepan; add an ounce of fine sheet gelatine, and while this is dissolving, season the meat rather highly according to taste and prepare the articles required for garnishing—hard-boiled eggs cut in slices, boiled beetroot stamped out in small fanciful shapes, French beans cut in lozenge shapes, pickled walnuts cut in quarters, and any other items which may suggest themselves as being suitable for the purpose. When ready, pour a little of the liquid jelly into a mould and turn the latter round and round until every part is coated; press in the garnishing, taking care to contrast the colours tastefully, then put in the meat quite loosely and pour the rest of the jelly over. Set the mould in a cool place overnight; then, when required, turn it out carefully on to a pretty dish, garnish with a full close border of well-seasoned watercress and slices or quarters of fresh lemon, and serve.

The Hen that Pays the Rent.

We have all heard of the Irishman's pig as "the gentleman that pays the rent"; New Orleans has apparently transferred its affection for a rent-provider to the hen. Thus writes Mr. Consul-General Carew-Hunt on the subject: "The high cost of living in the South of late, which, roughly speaking, makes one spend five coins here to obtain what two coins will buy in the United Kingdom, has made families with limited incomes look around to see how they can reduce their household expenses. The old way of several couples joining together and taking a house between them and thus conducting a sort of joint stock housekeeping establishment does not work well in this semi-tropical climate, as the damp heat leads to friction amongst the occupants. The keeping of poultry in sufficient numbers to reduce the butcher's bill is found to be a step in the right direction, and nearly every back-yard in the town is turned into a poultry-farm. The music of turkeys, geese, ducks, and fowls is heard night and day. This new family industry has been a blow to the cold storage plants. They have had to get rid of their stale eggs at any price, as the family trade is closed to them now that everyone has more eggs than they know what to do with. This increased interest in all kinds of the feathered tribe has led to the starting of numerous poultry shows in the principal cities. All of these have proved financial successes. Valuable prizes are given by them to the exhibitors, who are thus encouraged to extend their business as much as possible and raise the quality of their pets."

"WHEN THE GEESE COME HOME."

AS the solemn hour of twilight falls
On the kitchen, garden, and dead brick walls,
I watch the geese in Indian file,
Wobbling homeward, cackling the while,
And hissing loudly at the passer-by,

Or the clothes on the line hung out to dry.
And then to myself I says, says I,
As I watch the growing green of the sky,
And the dim horizon of dusty road,
And the rag-picker struggling on with his load:
"Oh, why do the geese make their painful way
To their tumble-down shed at the close of day?
Why does the soul like the long day gloam
At the simple words 'when the geese come home?'"

And then I think, till my heart doth ache,
Of the sobbing child and his sugar cake
That the geese have robbed, as in baby-play
He took them for angels and stopped their way.
I think of the yellow curls in the dust,
The little flat feet in the air up-thrust,
And the song of the geese with new harsh notes
Because of the crumbs that filled their throats.

And again I think that at early dawn,
When the geese shall welcome the coming morn,
And the milkman shall stop at the corner pump
And raise a rattle that makes me jump,
I shall wake from dreams of another day,
Of hoeing potatoes and raking hay—
Of days when the geese to the pond would roam,
And I, with a stick, would drive them home.

I dream of the schoolhouse under the hill,
Of the birchen rod that was never still;
Of the little girl, all smiles and tears,
And a genius for flirting beyond her years;
Of the narrow bridge and noisy flock
Of geese that hissed her and tore her frock;
And I think to myself, thinks I, "Well, there!
In those childish hours I could not swear."

Alas! for the geese, and alas! for the girl,
With their scarlet feet and her scarlet curl;
The geese have been eaten for years, I trow,
And the girl is a mother of ten I know.
But I am still young as I e'er shall be;
No wife can wither or bankrupt me.
I float on the spatter of free life's foam,
And smile at the time when the geese came home.

The Cape Colony Laying Competition.

Mr. A. H. Little, who is managing this contest, in his report for July, which corresponds to our January, records a satisfactory increase in the eggs laid, but up to that period the honours rest with the lighter breeds—Leghorns—as he says the heavy races have done badly, thus giving credence to the statement that the latter are not suited to South Africa. A pen of Australian White Leghorns stands well in front.

SOMETHING ABOUT LINE-BREEDING.

THE MOST IMPORTANT AND PERHAPS THE MOST NEGLECTED OF ALL VITAL FACTORS WHICH COUNT FOR SUCCESS IN BREEDING FOWLS.

By H. L. ALLEN.

BREEDING in line is easily understood theoretically, but not one in ten of those who understand it in theory have attempted to work it out in practice. Many of those who have explained the theory of line-breeding have set forth certain rules to be followed by the breeder, but it has been my experience that, like all other theories, the one relating to line-breeding must be governed by the conditions which will confront the breeder, some of which cannot be predicted beforehand.

The theory of line-breeding, says Mr. H. L. Allen, in the *Successful Poultry Journal*, is to secure a proper foundation—that is, a male and female embodying the breeder's ideas of perfection as nearly as may be, and then after selecting two or more branches of the direct progeny to establish a similar number of lines, reunite those lines through individuals selected from two or more of the lines so established, thus breeding back in line to the original pair. This is, of course, inbreeding, but if a proper interval is allowed to elapse before attempting to reunite the blood of the different lines, with one or both of the original pair it is not inbreeding of the incestuous order.

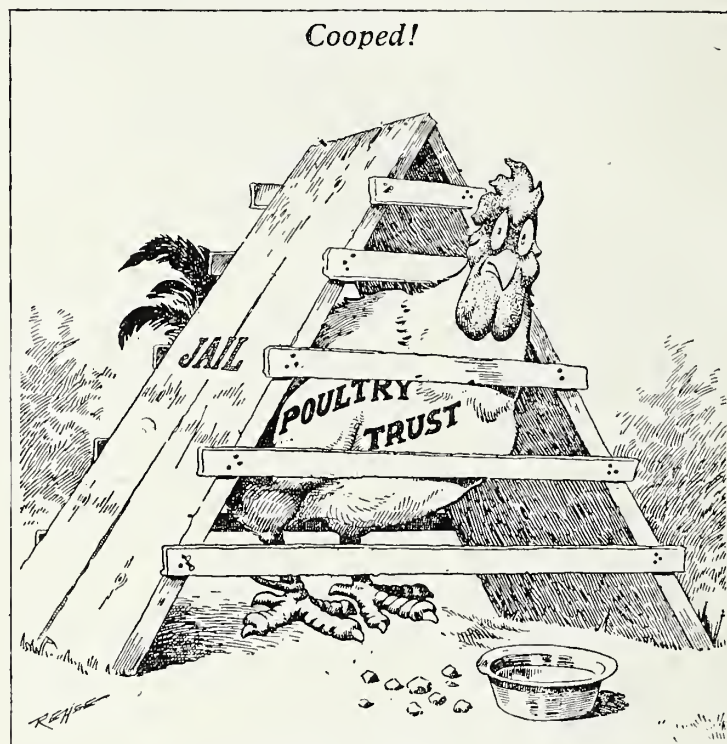
The advantage of line-breeding, and, indeed, of inbreeding, lies chiefly in the fact that it reduces the number of different ancestors in a fowl's inheritance greatly.

In the first four generations of a fowl in which inbreeding of no kind appears, there are thirty ancestors. It is obvious that among these thirty ancestors there must be a diversity of type which cannot but make the progeny of such a bird when mated with another of similar breeding differ greatly in characteristics. Each ancestor in a fowl's ancestry exerts some influence, some, it is true, more than others, and it is not infrequent that the one exerting the most influence is one possessing certain traits or characteristics which the breeder is anxious to steer clear of.

This tendency to atavism, or jumping back, is the most annoying feature of breeding from good individuals, without regard to the traits and characteristics which its ancestors possessed. One undesirable ancestor somewhere among the fourteen ancestors making up the first three generations in a bird's pedigree has been known in infrequent cases to spoil that bird as a breeder, for in some mysterious way nature seems to have given that one bird the prepotency to enable him to impress his traits so strongly on his progeny that, while they do not show externally in certain of his descendants, they will come out through the progeny of those descendants.

It is to avoid the recurrence of undesirable traits such as accompany breeding from birds of miscellaneous lines that thoughtful breeders have resorted

to inbreeding and especially to line-breeding. After two or three generations of line-breeding, the breeder is perfectly familiar with the individual traits and characteristics of every individual ancestry of his year's crop of chicks. As I said at the beginning of this article, I have never bound myself down by any set rules but have allowed my course to be governed by the conditions confronting me. It has been my usual custom, after securing two lines from the



From "Evening Mail" New York

The above Cartoon deals with the Poultry Trust Trial referred to in "The Diary of the Month."

original pair to let two generations intervene and then breed a male back to the original female or vice versa. As the lines originally established are carried on from generation to generation this breeding back to an exceptionally good individual after the lapse of two generations is frequently resorted to to help establish or strengthen certain typical characteristics.

No great prize winning family in any branch of live stock has ever been evolved without resorting to inbreeding, but the greatest success of this kind of breeding has always been secured when inbreeding was practised in connection with line-breeding. Inbreeding as practised indiscriminately is like a two-edged sword in that it cuts both ways, the breeder having to take the chance of getting an intensification of the undesirable, as well as the desirable, qualities.

By practising line-breeding, however, even in its simplest form, which is the separation of the blood of sire and dam for two or three generations and then reuniting the strains so established either by crossing a male and female from the two branches, or, better still, by mating a male or female from one of the branches back to the original of the opposite sex, the dangers attendant upon indiscriminate inbreeding are avoided and the chances of injurious atavism are reduced to the minimum.

There are those who have carried the establishment of family branches much farther than I have attempted to do, but on the moderate scale which has characterised my own inbreeding operations I have found line-breeding, as I have attempted to describe here, a most satisfactory method for producing a flock of birds year after year that will adhere closely to the type desired, and with four reversions to the earlier type, which, even in our oldest breeds, was existent not so many years ago.

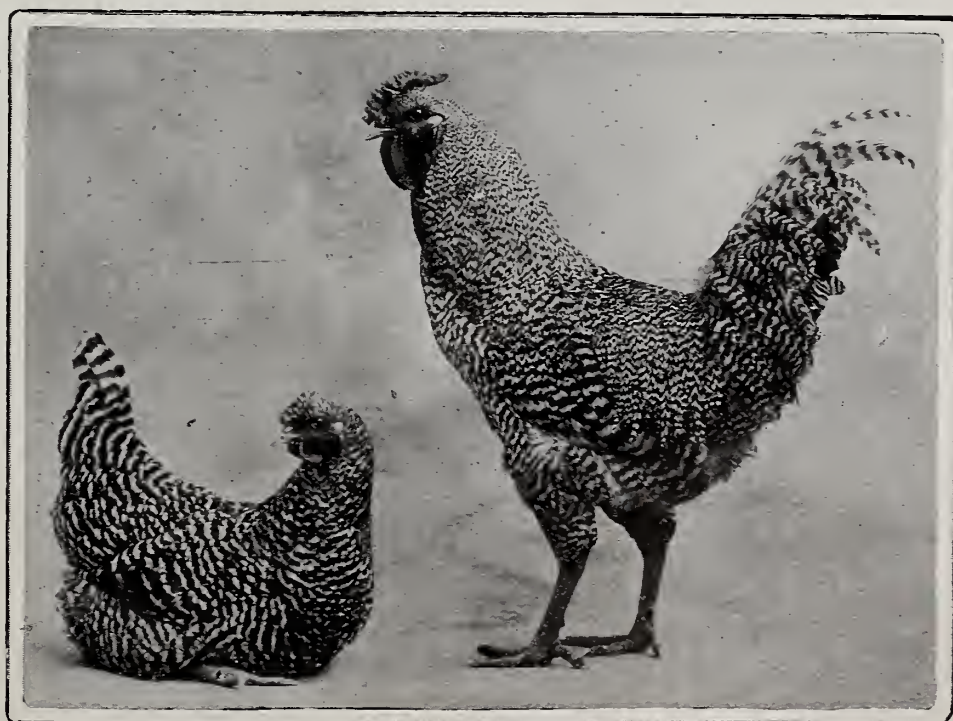
If these few observations on a subject which possesses interest to all breeders will be able to make plainer to those who may be beginners in the race for breeding honours why line-breeding is far preferable to a method which depends upon constant outcrosses and in almost as great a degree preferable to inbreeding without preservation of the individual blood lines, the writer will have accomplished the object which caused the attempt to present them in readable form.

THE WHITE WYANDOTTE CLUB.

RESULT of club judge election, 1911 show:— 76 papers returned, 4 papers unsigned, 2 papers late. R. Anthony, 18 votes (elected); G. H. Richards, 14 votes; W. M. Elkington, 14 votes; J. Wharton, 12 votes; W. Moore, 6 votes; H. Peel, 4 votes; W. Heyden, 1 vote; J. A. Cowe, 1 vote. Scrutineer, G. Hodges. Club show to be held at Cirencester, Glos., probably November 23 and 24.

The Report of the Dublin Conference.

We have received a copy of the Report of the Proceedings at the Conference on the Poultry Industry held at Dublin in May last. It forms a large book of 234 pages, and contains all the papers read at the Conference, together with the discussions which followed. It costs only one shilling, and forms a valuable addition to the poultry-keeper's library. We shall be pleased to supply it for 1s. 3d. post free from this office. We recommend every poultry-keeper to secure a copy.



A PAIR OF MRS. RICE'S ROSECOMB ROCKS.

Both are Prize Winners, while the parents of the Pullet won Second Prize at London Dairy Show last year.

MARKETS & MARKETING.

Week Ending August 26.

Although the weather was somewhat cooler, the demand for poultry produce was no better, and prices did not range very high. August is at all times a slack period in the poultry market, but the intense heat experienced this year made it even quieter than usual. New laid eggs were fairly plentiful, but prices were firm, owing to the small supplies from abroad.

Week Ending September 2.

Poultry produce was present in fairly large quantities, but customers seemed few, with the result that the trade was poor. Large supplies, coupled with a slack demand, naturally is not the best period for the producer. Game being pretty abundant rendered chickens and other kinds of fowls somewhat at a discount. The egg trade was in pretty much the same condition as last week.

Week Ending September 9.

The continuance of the hot weather prevented a great improvement in the value of poultry produce. Chickens realised a slightly higher figure, notwithstanding the fact that many people were still away from home and that partridges and grouse were plentiful and cheap. The egg market remained firm.

Week Ending September 16.

Everything in the poultry line was plentiful and cheap, although a slight improvement was apparent in one or two directions. Grouse and partridges were very abundant. New-laid eggs rather dragged.

Week Ending September 23.

A distinct improvement was noticeable all round, both poultry and game finding a ready sale. Partridges were wanted badly, while wild rabbits sold very quickly. There was practically no change in the egg market. The cooler weather was very favourable indeed to the ready sale of all kinds of poultry produce, and the markets have now turned the corner; we may expect prices to rise week by week.

TABLE OF PRICES REALISED FOR HOME, COLONIAL, AND FOREIGN POULTRY, GAME, AND EGGS DURING THE FOUR WEEKS ENDING SEPT. 23, 1911.

ENGLISH POULTRY—LONDON MARKETS.

DESCRIPTION.	1st Week.		2nd Week.		3rd Week.		4th Week.	
	Each.		Each.		Each.		Each.	
Surrey Chickens	2/6	to 4/0	2/6	to 4/0	2/6	to 4/0	2/6	to 4/6
Sussex "	2/6	" 4/0	2/6	" 4/0	2/6	" 4/6	2/6	" 4/6
Yorkshire "	1/9	" 3/3	1/9	" 3/0	2/3	" 3/6	2/0	" 3/6
Boston "	1/9	" 3/3	1/9	" 3/0	2/3	" 3/6	2/0	" 3/6
Essex "	1/9	" 3/3	1/9	" 3/0	2/3	" 3/6	2/0	" 3/6
Capons	4/0	" 5/0	3/6	" 4/6	4/6	" 5/6	5/0	" 6/0
Irish Chickens	1/6	" 2/9	1/6	" 2/6	1/9	" 2/9	1/9	" 2/9
Live Hens	1/6	" 2/3	1/3	" 2/3	1/3	" 2/6	1/6	" 2/6
Ducks	1/9	" 2/9	1/9	" 2/9	2/0	" 3/0	2/3	" 3/3
Geese	4/6	" 6/0	4/6	" 5/6	4/6	" 5/6	5/0	" 6/6
Turkeys, Cocks	5/6	" 7/6	5/0	" 7/6	6/0	" 7/6	5/6	" 7/6
" Hens	5/0	" 6/0	5/0	" 6/0	5/0	" 6/0	5/0	" 6/0

ENGLISH GAME—LONDON MARKETS.

DESCRIPTION.	Each.		Each.		Each.		Each.	
	Each.		Each.		Each.		Each.	
Grouse	1/6	to 2/6	1/6	to 2/3	1/6	to 2/3	1/6	to 2/3
Partridges	1/6	" 2/9	1/3	" 2/3	1/3	" 2/3	1/3	" 2/3
Pheasants	—	—	—	—	—	—	—	—
Black Game	1/6	" 2/0	1/6	" 2/0	1/6	" 2/0	1/6	" 2/0
Hares	1/3	" 2/6	1/3	" 2/6	1/6	" 2/9	1/3	" 3/0
Rabbits, Tame	1/0	" 2/0	1/0	" 2/0	1/0	" 2/0	1/0	" 2/3
" Wild	0/6	" 0/10	0/4	" 0/10	0/4	" 1/0	0/4	" 1/0
Pigeons, Tame	—	—	—	—	—	—	—	—
" Wild	—	—	—	—	—	—	—	—
Wild Duck	1/6	" 2/0	1/6	" 2/0	1/0	" 2/0	1/3	" 2/0
Venison (per lb.)	0/5	" 0/6½	0/3	" 0/6½	0/4	" 0/6½	0/4	" 0/6½
Snipe	—	—	—	—	—	—	—	—
Plover	—	—	—	—	—	—	—	—

ENGLISH EGGS.

MARKETS.	Per 120.		Per 120.		Per 120.		Per 120.	
	Eggs per dozen.		Eggs per dozen.		Eggs per dozen.		Eggs per dozen.	
LONDON	10/-	to 12/-	11/-	to 12/6	12/-	to 13/-	12/-	to 13/-
Provinces.	Eggs per dozen.		Eggs per dozen.		Eggs per dozen.		Eggs per dozen.	
MANCHESTER ..	1/3		1/3		1/2		1/2	
BRISTOL	1/3		1/3		1/3		1/3	

FOREIGN POULTRY—LONDON MARKETS.

COUNTRIES OF ORIGIN.	PRICES REALISED DURING THE MONTH.			
	Chickens, Each.	Ducks, Each.	Ducklings, Each.	Geese, Per lb.
Russia	—	—	—	—
Belgium	—	—	—	—
France	—	—	—	—
United States of America	—	—	—	—
Austria	—	—	—	—
Canada	—	—	—	—
Australia	—	—	—	—

IMPORTS OF POULTRY AND GAME. MONTH ENDING AUG. 31, 1911.

		COUNTRIES OF ORIGIN.		DECLARED VALUES.	
				Game.	Poultry.
Capercaillie.....	—	Russia	—	—	—
Black Game.....	1/0 to 1/3	France	£8	—	£1,551
Ptarmigan	0/11 " 1/1	Austria-Hungary	—	—	£1,574
Partridges.....	1/6 " 2/9	United States of America	—	—	—
Quail	—	Other Countries	£607	—	£2,830
Bordeaux Pigeons	0/9 " 1/4	Totals	£705	—	£5,955
Hares	—				
Rabbits	0/5 " 0/7				
Snipe	—				

IMPORTS OF EGGS.

MONTH ENDING AUG. 31, 1911.

DESCRIPTION.	1st Week.	2nd Week.	3rd Week.	4th Week.	COUNTRIES OF ORIGIN.	Quantities in Gt. Hund.	Declared Values.
	Per 120.	Per 120.	Per 120.	Per 120.			
Irish Eggs	10/6 to 11/3	10/0 to 10/9	10/0 to 11/6	10/0 to 11/0	Russia	977,788	£335,498
FOREIGN EGGS.							
French ...	10/3 to 11/3	11/0 to 11/6	10/0 to 12/0	10/0 to 12/0	Denmark	433,984	£208,960
Danish ...	10/6 " 11/0	10/0 " 10/6	10/0 " 11/6	10/0 " 11/6	Germany	24,349	£9,006
Italian ...	10/3 " 10/9	9/9 " 10/0	9/6 " 10/6	9/0 " 10/0	Netherlands	40,070	£20,788
Austrian ...	7/3 " 10/0	7/3 " 8/9	7/9 " 9/0	7/6 " 8/9	France	57,834	£24,750
Russian ...	7/9 " 9/0	7/6 " 8/9	7/3 " 9/0	7/0 " 8/9	Italy	30,996	£13,534
					Austria-Hungary	36,000	£14,140
					Other Countries	42,848	£17,507
					Totals	1,651,069	£644,183

ANSWERS TO CORRESPONDENTS.

Winter Egg-Production.

Which is the best variety for winter laying, and when should the chickens be hatched?—M. G. (Norwich).

The General Purpose breeds are the best winter layers, particularly the Orpington, Wyandotte, and Plymouth Rock. The light varieties are of little service in this respect, producing the bulk of their eggs during the spring and summer. The chickens should be hatched towards the latter part of February or during March. No definite date can be stated, for the rate of development varies so greatly, but, generally speaking, pullets of the General Purpose class can be depended upon to commence laying when about seven or eight months of age.

Water for Ducklings.

Is drinking-water beneficial or not for young ducklings?—Is milk better; and if so, should it be given sweet or sour?—J. F. M. (Masonhill).

Drinking water is necessary for ducklings, and should be given during the fattening process after they have had their feed; a bowl of water filled almost to the top with coarse gravel will answer the purpose. Milk may, however, be used in small quantities, and it must be sweet. But it is usually found that they will fatten very rapidly without milk, as they are such enormous eaters.

Natural versus Artificial Rearing.

"Which is the best method of hatching, artificial or natural? I only go in for poultry on a comparatively small scale, usually having a stock of about two or three dozen birds. I have a small holding of half an acre, and I should like to know whether under these conditions an incubator is necessary. I am anxious to have a supply of chickens early in the season, and I have been told that for this purpose an incubator is necessary. Your kind assistance will much oblige."—P. L. M. (Liverpool).

We cannot say that one method of hatching is better than the other. As to which system is adopted, it must depend upon the extent of your operations and the time of year when you desire chickens. It is somewhat difficult to advise you, as only keeping between two and three dozen fowls it seems scarcely worth going to the expense of an incubator; but, on the other hand, as you are anxious for a supply of early chickens, an incubator is certainly helpful in this direction, if not absolutely necessary.

Mash v. Grain.

"A writer in the *Cape Times* recommends the feeding of laying hens with soft food at night and grain in the morning. As this is quite contrary to the usual order of things, I would be glad if you would let me know, in the next issue of your valuable journal (to which I have subscribed for a long time), your opinion on the matter, and also your advice *re* correct feeding of laying hens."—W. T. D. (Cape Province).

The reversal of the times of feeding soft food and grain respectively has been advocated by a few breeders, who have reported that the results obtained

were quite as good as when soft food was given in the morning. But the weight of evidence remains with the older method, on the ground that, as grain requires longer for digestion than soft food, it is better that it be fed in the evening, to carry through the long hours of the night. Since, however, the scratching system of feeding was introduced, the question is of lesser importance, as soft food is supplementary, and, in some cases, has no advantage for laying hens over grain. In any case, the mistake is very general of giving too much soft food in the morning, for if the birds obtain a full meal, they are indolent for some hours, have no incentive to seek for food, and the tendency is to become fat. That may explain why some breeders prefer grain for the morning meal. The right way is to give only a half ration of soft food in the morning, leaving the birds to eat as much as they like, later in the day, of grain. We certainly think the evening feeding of soft food is not to be desired. E. B.

Short Replies.

M. T. (Dublin): Yes.

H. Y. (London): Yes.

P. R. T. L. (Ringwood): About 1875.

W. L. S. (Stevenage): We do not know.

W. E. (Chatham): (1) Yes. (2) Yes. (3) No.

M. B. S. C. (Edinburgh): Two bushels or half a sack.

S. M. (Paris): Buff Orpingtons or White Wyandottes.

L. B. S. (Toronto): We have forwarded your letter to the firm named.

T. M. (Reading): A long article appeared on this subject in the January issue.

H. M. S. (London): During August or September. Preferably the former month.

E. M. T. (Aberdeen): (1) From 7s. 6d. to 10s. 6d. per dozen. (2) At least £1 1s. (3) 1903.

FOR WALKERS AND CYCLISTS.

LESS than an hour's journey from London, the most charming country is to be met with in Buckinghamshire—attractive alike to those who cycle or walk, or prefer more leisured means of getting about, to the antiquarian, the artist in search of the picturesque, or the angler intent on enjoying a day's quiet sport at some favoured spot, it is remarkable that this favoured holiday land has not become more widely known—the Great Central Railway Company have done much to open it up, and their tasteful and excellently illustrated handbooks for walkers and cyclists entitled, "Strolls in Beechy Bucks" and "Cycling Spins in Beechy Bucks" place the visitor in the way of finding for himself the roads and paths and the many places of interest with which the district abounds. Copies of each booklet will be sent post free for 3d. by the Publicity Department, 216, Marylebone-road, N.W.

TRADE NOTICES.

The Red Orpington.

We understand from Mr. Holmes Hunt, of Hellingly, Sussex—who, by the way, is the introducer of the Red Orpington—that this variety is going very strong, and

inquiries are coming in from all parts of the world, particularly from America. The Red Orpington is a splendid layer, and a great future, we should imagine, is in store for this breed. Mr. Holmes Hunt has a pen of five hens which averaged in six months 175 eggs per head. The present has been an excellent season at Hellingly, and Mr. Holmes Hunt has a large stock of all varieties.

An Egg Food.

Messrs. Chamberlain, Pole and Co., Ltd., poultry food specialists, of Bristol, are experiencing a large demand for their Nutrex winter poultry food specialities. Their "Nutrex" laying meal is offered at a low price and will undoubtedly increase the egg supply. There is very little doubt that we are in for a dear season and that all poultry breeders will find a ready sale at high prices for new-laid English eggs. A large free sample, together with price list of all their specialities, will be sent on receipt of 1d. stamp to cover postage. Send for particulars to Messrs. Chamberlain, Pole and Co., Ltd., the Poultry Food Specialists, Broadmead, Bristol.

Mr. W. Tamlin's Exports.

The following is a list of Mr. Tamlin's exports for August, 1911:—Six 60 and twelve 100 egg incubators, to John F. Marshall, sole agent for the Transvaal, South Africa; one 60 egg incubator, to Sir Walter Egerton, South Nigeria; twelve 60 and twelve 100 egg incubators, six 60 and six 100 foster-mothers, to Albert Newcomb and Co., sole agents for New Zealand; three 60, three 100, and one 200 egg incubator, to Oakes and Co., sole agents for South India; one 200 egg incubator, to G. Marrett, France; two 100 egg incubators, to M. Dauphin, France; three 30, three 60, and three 100 egg incubators, four 60 foster-mothers, to H. E. Mascarennas, sole agent for Portugal; one 100 incubator and one 100 Sunbeam foster-mother, to Thos. Power, Rhodesia; six poultry-houses, to Madame Olin, Belgium; two poultry-houses and six coops, three 60 and three 100 incubators, to M. André Colman, Belgium; one 200 egg incubator, one 100 foster-mother, to P. Marnley, Philadelphia, U.S.A.; one 60 incubator and one 60 foster-mother, to C. Nightingale, Gibraltar; and one 100 incubator and one 60 foster-mother, to P. A. Swann, Singapore.

Exportations.

During the past month Messrs. William Cook and Sons have shipped from the "Home of the Orpingtons," Orpington House, St. Mary Cray, Kent, many birds, including the following:

Per s.s. "Rhea," to Viborg, a pen each of White and Buff Orpingtons; per s.s. "Danube," to Santos, a pen of Barred Rocks; per s.s. "Finland," to U.S.A., two pens of Buff Orpingtons; per s.s. "Toledo," a Buff Orpington drake to Lisbon; via Parkeston to Denmark, a pair of Aylesbury ducks, seven Buff Orpington cocks, and a pen of Houdans; per s.s. "Ville du Havre," to Talacubano, a pen each of White Orpingtons, Buff Orpingtons, and Barred Rocks; per s.s. "Matiano," to Madras, a pen of Houdans, and per same boat to Bombay, a pen of Buff Orpingtons; per s.s. "Highland Watch," to Monte Video, a pen of Buff Orpingtons; per s.s. "Lucie Woerman," to Duala, a pen of Buff Orpingtons; per s.s. "Edinburgh Castle," to Port Elizabeth, a trio of Rouens; per s.s. "Nesta Craven," to Rio Grande do Sul, a pen of Buff Orpingtons; per s.s. "Minneapolis," to New York, twelve Black Orpingtons, twelve Buff Orpingtons, twenty White Orpingtons, ten Jubilee Orpingtons, and one pen of Spangled Orpingtons; per steamer from Liverpool, a pen each of White Rocks, Black Orpingtons, Buff Orpingtons, and White Orpingtons, to Rio de Janeiro; per s.s. "Highland Prince," to Buenos Ayres, sixty-two Buff Orpington fowls and thirty-eight Buff Orpington ducks, sixty-two White Orpingtons, thirty-four Houdans, and twenty-eight American Mammoth Bronze turkeys.

OUR BOOK MARKET.

Any of the following books will be supplied at the prices named. Cash must always accompany orders.

Amateur Poultry-Keeper. By W. M. ELKINGTON. 120 pages. Fifteen illustrations. Price, 1/2 post free.

Incubators and their Management. By J. H. SUTCLIFFE. Fifth Edition. Illustrated. Price, post free, 1/2.

Lett's Poultry-Keeper's Account Book. Edited by LEWIS WRIGHT. Cr. 8vo. Post free in the United Kingdom, the Colonies, and foreign countries, 2/8.

Poultry and Egg Raising at Home. By W. M. ELKINGTON. Illustrated. Price, post free, 1/2.

Poultry Culture for Profit. By Rev. T. W. STURGES, M.A. Third Edition. Cr. 8vo, 134 pages. Fully illustrated. Post free in the United Kingdom, the Colonies, and foreign countries, paper covers, 1/3; cloth, 1/9.

Poultry Fattening. By EDWARD BROWN, F.L.S. Fifteen illustrations, 120 pages. Price, 1/2 post free.

Poultry for Prizes and Profit. By JAMES LONG. New Edition. Revised by W. M. ELKINGTON. Illustrated. Post free 6/4 in the United Kingdom; in the Colonies and abroad, 7/6.

Poultry-Keeping as an Industry for Farmers and Cottagers. By EDWARD BROWN, F.L.S., Secretary of the National Poultry Organisation Society. Sixth Edition. 4to, 206 pages, fully illustrated. Post free in the United Kingdom, 6/6; 6/9 to the Colonies and foreign countries.

Popular Poultry-Keeping. By W. M. ELKINGTON. Illustrated. Price, post free, 1/2.

Possibilities of Modern Poultry-Farming. By J. STEPHEN HICKS and W. H. G. EWART. Price, 1/1½ post free.

Progressive Poultry Culture. By ARTHUR A. BRIGHAM, B.S., Ph.D. Illustrated. 300 pages. Post free, 6/6.

Races of Domestic Poultry. By EDWARD BROWN, F.L.S., Secretary of the National Poultry Organisation Society. 4to, 234 pages, with chapters on breeding, fully illustrated. Post free in the United Kingdom, 6/6; 6/9 to the Colonies and foreign countries.

Record Poultry Book. Nine illustrations. Written by Experts. Post free, 1½d.

Record Poultry Book. Nine illustrations. Written by Experts in Welsh. Price, post free, 1½d.

Report on the Poultry Industry in America. By EDWARD BROWN, F.L.S. Third Edition. Fully illustrated. Price, post free, 1/3.

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The New Book of Poultry. By LEWIS WRIGHT. Demy 4to, 600 pages, with many coloured plates, &c. Post free in the United Kingdom, 21/10; 24/- to the Colonies and foreign countries.

The Poultry Manual. By Rev. T. W. STURGES, M.A. 600 pages, 52 illustrations. Price, 6/6 post free.

Report on the Second National Poultry Conference, 1907. Edited by EDWARD BROWN, F.L.S. 382 pages, with nine illustrations. Post free in the United Kingdom, 5/6; in the Colonies and foreign countries, 6/-.

The Practical Poultry-Keeper. By LEWIS WRIGHT. Cr. 8vo, 320 pages, with eight coloured plates and other illustrations. Post free in the United Kingdom, 3/10; 4/- to the Colonies and foreign countries.

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